

XIII.—The Butterflies of Borneo, with
Notes on their Geographical Distribu-
tion, and Keys for Identification. By
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PART I.

THE earlier lists of Bornean butterflies appeared between 1887 and 1896 under the old binomial system. In 1904 the late Mr. Shelford began the task of bringing these lists up to date, and introducing in part the trinomial system. His work was published in 1904 and 1906, and dealt with the families Nymphalidæ and Lemoniidæ, 256 species in all. The present writer continued the work by publishing a part on the Lycænidæ, 300 species, in 1912, and another on the Papilionidæ, 78 species, in 1914. The concluding part on the Hesperidæ, about 160 species, is still unwritten.

Since the publication of Mr. Shelford's papers, several important works have appeared, which show the necessity of modifying the nomenclature and system used ten years ago. Principal among these is Seitz's *Macro-Lepidoptera of the World*, in which the trinomial system is adopted in its entirety. I have thought it a good opportunity to follow this great work and bring our Bornean list up to date.

The present part deals with the Nymphalidæ. The next will deal with the Libythæidæ and Lycænidæ, while a third will be devoted to the two remaining families, the Papilionidæ and Hesperidæ.

With so much written on Bornean butterflies (and, be it confessed, so little known about them) I have thought it better not to give scattered notes on life-histories, and to

refrain as far as possible from lengthy discursions on questions of nomenclature. Numerous footnotes indicate that this latter temptation has been too much for me in many instances. The object of my list is primarily to enable anyone to identify a Bornean butterfly, and to invest it with its full and most up to date title.

It is a melancholy fact that some of our most conspicuous and unmistakable species should suffer a continual change of name; thus, first, the generic name is altered, then the specific name goes, then perhaps another generic name appears, followed by a revival of the older specific name. For a few years the student congratulates himself on stability at last, and then comes a subspecific name to remember, which is no sooner published than shown to be synonymous with some other form, which also bears another name.

I have departed from the usual method of writing trinomials by inserting the name of the author of the specific name as well as that of the subspecific name.

In recording the geographical distribution of each form, I have given first Borneo and any other country in which that identical subspecies occurs, separated by a semicolon from other countries in which different subspecies or races of that same species occur.

A glance through the list indicates one very obvious fact, namely that the three countries, Borneo, Sumatra and the Malay Peninsula, have a very large number of forms common to all three, and at the same time well separated from allied forms in neighbouring countries. For these three countries I propose to introduce the collective name "Neomalaya." The former connection of the three countries as one land mass is geologically a comparatively recent event, and on that account forms the explanation of the above faunistic relation. Similarly, their long separation from Burma in the north, Java in the south, and the Philippines in the north-east accounts for the comparatively distant relationship between the forms of those countries and those of Neomalaya.

Wallace called attention to this peculiarity long ago, but subsequent writers have been inclined to modify his outspoken words. Perhaps the latest modification is that of Fruhstorfer, who introduces the term "Macromalayana" to distinguish the Malay Peninsula and the three Greater Sunda Isles. Now, to my mind the fauna of Java is just as distinct from that of the Malay Peninsula as is that of

Burma. These three countries share an older eastern element of continental origin, but the Malay Peninsula alone of these has an essentially Malayan element, which it shares with the true Malayan countries of Borneo and Sumatra, together with their adjacent islands (Billiton, Banka, Natunas, &c.).

The so-called Malayan fauna no doubt had its origin in the eastern portion of the Asiatic continent. We may refer to it by a general term "Indo-Malayan" as opposed to the "Austro-Malayan" fauna which characterizes the eastern portion of the Malay Archipelago, and whose character has been determined by a northern extension of Australian (*s. l.*) forms. Within our "Indo-Malayan" region we get the formation of a purer Malayan fauna in the more restricted area I have called "Neomalaya."

The following bibliography refers to papers on Bornean butterflies only. More general works, like Distant's *Rhopalocera Malayana*, Moore's *Lepidoptera Indica*, and Staudinger's *Schmetterlinge das Inseln Philippinischen*, &c., contain references to Bornean species, but they are too well known to need mention.

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FAM. I. NYMPHALIDÆ.

Subfam. 1. DANAINÆ.

1. *HESTIA LOGANI* Moore *virgo* Fruhst.¹
Borneo; Neomalaya, Java, Sulu Isles.
2. *H. LYNCEUS* Drury *fumata* Fruhst.²
Borneo; Neomalaya, Java.
3. *H. HYPERMNESTRA* Westw. *hypermnestra* Westw.
Borneo (south and south-east), Natunas; Neomalaya, Java.
4. *H. HYPERMNESTRA* Westw. *arbela* Fruhst.³
North Borneo (Kinabalu).

¹ Fruhstorfer gives two subspecies from Borneo: *alcine* from Pontianak and *virgo* from northern Borneo. The Sarawak series embraces the small differences between the two, so I place them all under the older of the two names. Shelford recorded it as *H. lynceus druryi*, a name which has now become *logani druryi* and restricted for the Sumatran form of this species.

² Fruhstorfer again gives two subspecies from Borneo: *favorinus* from Kinabalu, west to Pontianak, and *fumata* from Amuntai and Banjarmasin. This latter is distinguished by the dorsal part of the abdomen being "brown instead of deep black," and "the roundish patches of both wings above dull brown-black instead of deep black." I have examples from Kinabalu and Sarawak before me, agreeing well with this description of the South Bornean form, and I therefore merge the two names under *fumata* (the older).

There appears to be some difference of opinion as to the original habitat of Drury's *lynceus*. Thus, Drury (1773) writes: "I received it from the island of Johanna, near Madagascar, in the Indian Ocean"; de Niceville (1882) says there is "no doubt that the large *Hestias* from the Wynaad (India) are identical with *H. lynceus*, Drury"; Moore (1890) describes *Hestia lynceus* as "the type of the genus; with very elongated and narrow wings. Occurs only in Borneo"; Bingham (1905) writes under *Hestia*, "Type, *H. lyncea*, Drury, from the Malay Peninsula"; and lastly, Fruhstorfer (1910) says, "The name-type *lynceus*, Drury, probably came from Sumatra."

The Bornean examples before me differ from Drury's figure in the distinct brown shade of the ground-colour and spots as opposed to his grey and black insect.

³ Shelford gives the two Bornean subspecies as *Hestia belia hypermnestra* and *Hestia belia belina* Fruhst. This latter is a lighter form connected by transitions to typical *hypermnestra*. Westwood originally figured *hypermnestra* and *belia* on the same page, numbered figs. 1 and 2 respectively, so *hypermnestra* becomes the type of the species.

5. *H. LEUCONOË* Eschsch. *chersonesia* Fruhst.⁴
Borneo, Malay Peninsula, Banca ; Formosa, Philippines, Java.
6. *IDEOPSIS DAOS* Boisduv. *daos* Boisduv.⁵
Borneo ; Neomalaya, Palawan.
7. *DANAIDA JUVENTA* Cr. *kinitis* Fruhst.
North Borneo ; Malay Peninsula and Archipelago to Solomon Isles.
8. *D. SIMILIS* Linn. *vulgaris* Butl.⁶
Borneo, Sumatra, Malay Peninsula, Java ; Loo Choo Islands to Palawan, Sumbawa and Ceylon.
9. *D. CROWLEYI* Jenner-Weir.
Mountains of North Borneo and Sarawak.
10. *D. LUZONENSIS* Feld. *præmacaristus* Fruhst.⁷
Mountains of North Borneo and Sarawak ; Philippines, Java, Lombok, Sumba, Sumbawa.

⁴ The Sarawak Museum series has examples with dark apex from North Borneo (= *nigriana* Gr.-Sm.), connected by a slightly lighter form from Northern Sarawak to typical Sarawak forms with broad white submarginal area and marked yellow tinge at base of fore wing (= *chersonesia* Fruhst.) ; there is also a Sarawak specimen without the yellow tinge and with rather lighter ground-colour (= *natunensis* Snell.).

As the last two occur together and the first two are connected by transitions, I unite all three under one subspecific name *chersonesia*, noting, however, that this Bornean subspecies has melanistic tendencies as it proceeds further north.

Shelford queried the subspecific value of the above three forms.

The Javan form *javana* Fruhst., described as intermediate between *chersonesia* and *nigriana*, should also be merged with *chersonesia* in all probability.

⁵ Fruhstorfer refers typical *daos* to South Borneo, with darker males called form *infumata* from South-east and South-west Borneo, and a separate subspecies *ardana* from Kinabalu. The slight differences given by Fruhstorfer are not maintained in a series before me from Kinabalu, Sarawak mountains and Sarawak low country.

⁶ Fruhstorfer separates the Bornean form as *kinitis* ; the differences do not appear to me sufficiently distinct or constant to separate it from the forms found in the Malay Peninsula, Sumatra and Java.

⁷ According to Fruhstorfer (1910) this subspecies is "very rare, hitherto only one male described from coll. Fruhstorfer." Shelford (1904) reported it as common on Mt. Penrissen in 1899. A female was obtained on my visit to that mountain in 1900 ; it differs from the male in having the white spots of the submarginal border in the hind wing rather more prominent. The wings are slightly broader and less pointed as in *crowleyi*. The abdomen beneath is white, not grey, as stated by Fruhstorfer.

11. *D. ERYX* Fab.⁸
Borneo, Java and Sumatra to Nias, Nicobars, Burma and Siam.
12. *D. ASPASIA* Fab. *shelfordi* Fruhst.
Borneo ; Malay Peninsula, Palawan, Sumatra, Nias, Engano, Java.
13. *D. LIMNIACE* Cr. *kuchingana* Moulton.⁹
Sarawak ; India to Formosa and the Philippines, Celebes, Java.
14. *D. MELISSA* Cr. *microsticta* Butler.
Borneo ; India, China and Malaya to the South Sea Islands.
15. *D. CHRYSIPPUS* Linn. *chrysippus* Linn.
Borneo, India, China, Malaya to New Guinea ; South-eastern Europe, Africa.
16. *D. PLEXIPPUS* Linn. *intensa* Moore.
Borneo, Java, Bali, Bawean ; India to Formosa and south to Australia.
17. *D. MELANIPPUS* Cr. *hegesippus* Cr.
Borneo, Sumatra, Malay Peninsula, Natunas ; India and Malaya to Java and Celebes.
18. *D. LOTIS* Cr. *lotis* Cr.
Borneo ; Palawan, Philippines, Celebes.

⁸ The Sarawak series presents several variations, which seem to indicate that Fruhstorfer's subspecies should be merged under one name. Thus in some the inter-nervular areas are whitish, in others distinctly grey-green ; in one the whitish lines are reduced to half the width of those in others from the same locality. Fruhstorfer uses Staudinger's name *borneensis* for the Bornean form.

⁹ My description of this subspecies was published in the *Entomologist* for May, 1915 (p. 97). I quote it below:—

“Shelford records both *septentrionis* and *microsticta* from Borneo, the latter, I think, based on one female in the Sarawak Museum, which should be referred to *limniace*, hitherto unrecorded from Borneo.

“Typical *limniace* comes from the Himalayas, China, Hong Kong and Formosa. A lighter form from Ceylon and South India has been named *mutina* by Fruhstorfer. The single Bornean female before me differs from this last subspecies in the following points:—hyaline streak from base of cell in fore wing larger, hyaline patch below cell divided, and a circular spot cut off distally. In the hind wing the cell is divided by prominent cell streak nearly reaching the base of wing; the white lines bordering the median and submedian nervures are as long as the next pair which border the submedian and internal nervures. Beneath (including abdomen) the general colour is dull golden-olive, the discal region of the fore wing browner. Exp. al., 90 mm.

“I name this subspecies *kuchingana*, as the only known specimen bears the label ‘Kuching (Sarawak), December 23rd, 1895.’”

19. *D. LOTIS* Cr. *mezentius* Fruhst.
North-east Borneo (Sandakan).
20. *EUPLOEA MOOREI* Butl. *brookei* Moore.¹⁰
Borneo; Sumatra, Nias, Mentawai.
21. *E. CRAMERI* Luc. *crameri* Luc.¹¹
Borneo, Natunas; Tenasserim, Malay Peninsula,
Nicobars, Nias, Sumatra, Java, Bali.
22. *E. MALAYICA* Butl. *scudderi* Butl.
Borneo; Malay Peninsula, Sumatra, Nias, Java,
Palawan.
23. *E. MODESTA* Butl. *lorzæ* Moore.
North Borneo; Burma, Siam, Sumatra.
24. *E. ALCATHOE* Godt. *uniformis* Moore.
Borneo; Burma and Assam south to the Greater
Sunda Isles, Bali, Lombok and Palawan.
25. *E. DEIONE* Westw. *masina* Fruhst.¹²
South-east Borneo; Burma and Assam south to
the Greater Sunda Isles, Nias, Lombok, Palawan,
Billiton.
26. *E. DEIONE* Westw. *zonata* Druce.¹³
Borneo.

¹⁰ Shelford united this subspecies with *crameri*, but I have been able to arrange the long series in the Sarawak Museum under two distinct forms, the one with expanse of wings averaging from 85-95 mm., the other 70-80 mm., the former with very dark velvety males, the latter with much duller fuscous males, which I regard as this subspecies (*brookei*) and the former as *crameri*.

¹¹ Fruhstorfer recognizes typical *crameri* from the whole of Borneo, except Sandakan and the Islands of Labuan and Daat, where the following subspecies are said to occur respectively: *pryeri*, *labuana* and *daatensis*. The Sarawak series shows all these forms, so I agree with Shelford in merging them all under *crameri*. Fruhstorfer's subspecies *lanista* from Natunas appears to be inseparable also.

¹² The description in Seitz's *Macro-Lepidoptera of the World* suggests relationship with the last subspecies (*uniformis*) rather than with the next (*zonata*).

¹³ Fruhstorfer states that the female is unknown. The single female in the Sarawak Museum differs from the males in the more distinct row of small marginal spots on the hind wing above, an additional row of sub-marginal spots below, which faintly show through above, and a second (distal) spot on the under side of fore wing between the second and third median nervules. One male is similarly distinguished from the other six in the Museum series.

27. *E. DUFRESNE* Godt. *tyrianthina* Moore.¹⁴
North Borneo (Kinabalu) and South-east Borneo ;
Assam, China, Philippines, Malay Peninsula and
Archipelago to Lombok and Sumbawa.
28. *E. MULCIBER* Cr. *portia* Fruhst.¹⁵
Borneo, Natunas ; India and China to Philippines,
the Greater Sunda Isles and Bali.
29. *E. MAZARES* Moore *aristotelis* Moore.
Borneo ; Malay Peninsula and Archipelago to
Flores.
30. *E. MAZARES* Moore *cabeira* Fruhst.
South-east Borneo.
31. *E. CORUS* Fab. *butleri* Moore.
Borneo ; Ceylon and Burma south to the Greater
Sunda Isles, Palawan and Celebes.
32. *E. LEUCOSTICTOS* Gmel. *syra* Fruhst.¹⁶
Borneo, Palawan ; Burma to Formosa and the
Philippines, south to the Greater Sunda Isles, Bali,
Sumba and Sumbawa.
33. *E. ÆGYPTUS* Butl. *ægyptus* Butl.¹⁷
Borneo ; Malay Peninsula, Sumatra, Java, Nias.
34. *E. SIMILLIMA* Moore *ælia* Fruhst.
North-east Borneo ; Palawan and Philippines.

¹⁴ The forms grouped under *harrisi* (continental), *lacordairei* (Malayan) and *dufresne* (Philippine), seem best united as one collective species ; hence the combination *dufresne tyrianthina* (as given by Shelford) instead of Fruhstorfer's *lacordairei tyrianthina* for the Bornean subspecies.

¹⁵ Recorded by Shelford as *Euplœa claudius mulciber*. Most author^s seem to agree that Cramer's *mulciber* came from the continent, so that the Bornean race required a new name. It seems to me hardly separable from Malay Peninsula, Sumatra and Java forms.

¹⁶ Shelford records a second subspecies, *kadu*, Esch., from North Borneo, Palawan and the Philippines. Two examples from Kinabalu do not differ in the least from *syra* caught on Mt. Matang, in Western Sarawak. The form *kadu* is restricted to the Philippines ; *syra* alone occurs in Borneo. Fruhstorfer describes a female form of *syra* as *kadina*, distinguished by a second spot between the median veins in the fore wing and by "two to three quadrate discal patches beyond the cell-wall" in hind wing. The Matang females before me belong to this form.

¹⁷ Shelford records *E. lowei* Moore and remarks that it is "possibly a subspecies of *ægyptus*" ; Fruhstorfer seems to me right in regarding it only as "an unimportant aberration."

Shelford also records *E. rafflesi sophia* Moore from Borneo. Both these names are now used for restricted subspecies of *ægyptus*, thus *rafflesi* from Java and *sophia* from North-east Sumatra.

35. *E. DIOCLETIANUS* Fab. *lowi* Butl.¹⁸
Borneo; Burma and Siam south to the Greater
Sunda Isles and Natunas.

Subfam. 2. SATYRINÆ.

36. *YPTHIMA FASCIATA* Hew. *fasciata* Hew.
Borneo, Natunas; Malay Peninsula and Sumatra.
37. *Y. BALDUS* Fab. *selinutius* Fruhst.
Borneo, Natunas; Japan, Hong-Kong and India
south to the Greater Sunda Isles.
38. *Y. PANDOCUS* Moore.¹⁹
Borneo, Malay Peninsula, Sumatra, Java.
39. *Y. ABNORMIS* Shelford.²⁰
Sarawak.
40. *ERITES ARGENTINA* Butl. *argentina* Butl.²¹
Borneo; Sumatra, Malay Peninsula, Java.
41. *E. ELEGANS* Butl. *elegans* Butl.
Borneo; Sumatra.
42. *E. THETIS* Shelford.²²
Sarawak.

¹⁸ Originally written *lowei*, which I alter to *lowi*, as the insect was named after Sir Hugh Low, whose name is thus spelt.

¹⁹ Fruhstorfer separates as four different subspecies the individuals of this species from the Malay Peninsula, Java, Sumatra and Borneo. The Bornean form named *sertorius* is separated from the Javan form by the larger apical eye-spot of the female, from the Malay Peninsula form by the larger size and more extended black-brown shading on the under surface. A good series from Sarawak does not uphold these small distinctions; some specimens agree admirably with Fruhstorfer's figure of the Javan *pandocus*, others show gradations from it to his Bornean *sertorius*. I agree with Shelford in uniting them all under the typical name *pandocus*.

²⁰ The type and only known specimen is in the British Museum.

²¹ The Sarawak series seems to me intermediate between the forms recognized by Fruhstorfer as *argentina* from North Borneo, and *ines* from South-east Borneo; and they appear very doubtfully distinct from forms from Sumatra and the Malay Peninsula. The Javan race, on the other hand, has some good distinctions.

²² This species is perfectly distinct from *E. elegans*, which is not rare in the neighbourhood of Kuching (the provenance of *thetis*). Fruhstorfer in *Iris*, 1903, refers it quite inaccurately to *E. madura ines* (now = *argentina ines*). In Seitz's *Macro-Lepidoptera* he suggests it is the Sarawak local race of *elegans* which, as stated above, occurs in Sarawak and is abundantly distinct.

Like *elegans* there is no ocellus on the fore wing, but there the resemblance ceases, as the under side—fully described by Shelford—is quite different.

43. *LETHE EUROPA* Fab. *europa* Fab.
Borneo, Malay Peninsula, Sumatra, Java ; Philip-
pines, China and India.
44. *L. MEKARA* Moore.²³
Borneo, Sumatra, Malay Peninsula, Assam and
India.
45. *L. DELILA* Staud.
North Borneo (Mts. Kinabalu and Marapok).
46. *L. DORA* Staud.²⁴
Borneo (Sarawak and South-east Borneo).
47. *L. PERIMEDE* Staud.
North Borneo (Mt. Kinabalu).
48. *L. DARENA* Feld. *borneensis* Staud.
North Borneo (Mt. Kinabalu) ; Sumatra, Java.
49. *NEORINA LOWI* Doubl. *lowi* Doubl.
Borneo ; Sumatra, Nias, Malay Peninsula, Palawan.
50. *CÆLITES EPIMINTHIA* Westw. *epiminthia* Westw.²⁵
Borneo, Sumatra, Malay Peninsula ; Tenasserim,
Celebes.
51. *C. EUPTYCHIOIDES* Feld. *euptychioides* Feld.
Borneo ; Sumatra and Malay Peninsula.
52. *ORSOTRIÆNA MEDUS* Fab.
Borneo, India to the Greater Sunda Isles ; Celebes
and Lesser Sunda Isles to South Sea Islands and
Australia.
53. *MYCALESIS MARGINATA* Moore *pitana* Staud.
North Borneo (Mt. Kinabalu) ; Sumatra.
54. *M. ANAPITA* Moore.²⁶
Borneo, Malay Peninsula, Sumatra, Banka, Billiton.
55. *M. MNASICLES* Hew. *mnasicles* Hew.
Borneo, Sumatra ; Malay Peninsula, Burma.

²³ Fruhstorfer splits this variable species into a number of geographical races, which do not appear to me sufficiently distinct, as they are founded on particularly variable characters. Some Sarawak males, for instance, agree well with his figure of the Tonkin form.

²⁴ Described by Shelford as *cerama*.

²⁵ Regarded by Shelford as a subspecies of *nothis* from Siam, which is treated by Fruhstorfer as a separate species.

²⁶ The black distal border of the hind wing is variable in a long Sarawak series before me, and is insufficient in development and constancy to warrant Fruhstorfer's separation as a distinct race (*fucentia*).

56. *M. AMÆNA* Druce *amæna* Druce.
Borneo (Sarawak).
57. *M. AMÆNA* Druce *rampaiana* Moulton.²⁷
North Borneo (Mt. Kinabalu).
58. *M. JANARDANA* Moore *baluna* Fruhst.²⁸
North Borneo (Mt. Kinabalu); Malay Peninsula and
Archipelago to Philippines and Moluccas.
59. *M. PERSEUS* Fab. *cepheus* Butl.²⁹
Borneo, Malay Peninsula, Sumatra, Java; India to
Australia.
60. *M. HORSFIELDI* Moore *hermana* Fruhst.
Borneo, Sumatra; Malay Peninsula, Annam, For-
mosa, Palawan, Celebes, Java.
61. *M. KINA* Staud.
North Borneo (Mt. Kinabalu, Lawas).

²⁷ Described in the *Entomologist* (*l. c.*) as follows:—

“*M. amæna* was described from Sarawak. This was verified for me by Mr. N. D. Riley, who kindly examined the type in the British Museum for me. Fruhstorfer, in Seitz's *Macro-Lepidoptera of the World*, vol. ix. p. 341, notes it in his collection from North Borneo only, and figures a typical Kinabalu under side. A short series from Kinabalu, collected in September, 1913, shows several points of difference on comparison with the Sarawak series, so that it becomes necessary to restrict typical *amæna* for Sarawak specimens, and separate those from Kinabalu as a distinct subspecies, which I name *M. amæna rampaiana*, subsp. nov., and describe as follows:—

“Upper side of both sexes differs from typical *amæna* in the heavier fuscous apical shading; in the male this hides the apical ocelli which are visible in *amæna*.

“General colouring below dark fuscous brown instead of reddish brown; one broad median band across both wings, which is darker on the margins, lighter in the centre. In typical *amæna* this band is divided into two narrow reddish brown bands separated by a broader band of ground-colour; in fore wing of male *amæna* the basal band is obsolete.

The tuft of hairs on the costal margin of the hind wing above in male is greyish-ochreous, not conspicuous; in typical *amæna* this is pale yellow and at once seen on raising the fore wing.”

²⁸ Fruhstorfer states that only two examples are known. Dr. Hanitsch obtained it on Kinabalu in 1899; the Sarawak Museum has a small series obtained at 3000 ft. on the same mountain during my expedition of August and September, 1913.

²⁹ A very similar species, *M. mineus* Linn., is recorded from much the same region as *M. perseus*. Fruhstorfer describes a subspecies *macro-malayana* from Singapore and Sumatra; but apparently as yet unknown from Borneo. The male may be distinguished from *perseus* by the larger blackish sexual mark on the fore wing below, and from *horsfieldi* by the absence of the silky extension to the scent-patch on the hind wing above.

Shelford records *polydecta* from Sarawak, and states that he had not met with *perseus* in Borneo. The Museum series labelled *polydecta* contained both *perseus* and *horsfieldi*. Fruhstorfer restricts the name *polydecta* to the Indian form of *mineus*.

62. *M. THYATEIRA* Fruhst.³⁰
North Borneo (Brunei), South-east Borneo.
63. *M. FUSCUM* Feld. *adustata* Fruhst.
Borneo; Malay Peninsula, Sumatra, Nias, Banka, Java.
64. *M. ORSEIS* Hew. *orseis* Hew.³¹
Borneo, Malay Peninsula, Sumatra, Nias; Celebes.
65. *M. MAIANEAS* Hew. *maianeas* Hew.
Borneo, Malay Peninsula; Sumatra, Banka.
66. *M. DOHERTYI* Elw. *excelsior* Fruhst.³²
North Borneo (Mt. Kinabalu); Malay Peninsula
and Sumatra.
67. *RAGADIA MELINDENA* Feld. *annulata* Gr.-Sm.³³
North Borneo (Mt. Kinabalu); Southern Philippines
(Mindanao).
68. *R. CRISIA* Hübn.³⁴
Borneo, Natunas, Malay Peninsula, Sumatra, Java.
69. *MELANITIS LEDA* Linn. *ismene* Cr.
Borneo, India, China, Malay Peninsula, Sumatra;
Java, Celebes to Australia and Madagascar.

³⁰ Described by Fruhstorfer in Seitz's *Macro-Lepidoptera of the World*, vol. ix., p. 349, 1910.

³¹ Fruhstorfer separates the Bornean form as *borneensis*, characterized by the smaller black scent-patch of the hind wing, which he states is composed of two nearly distinct spots instead of being confluent as in *orseis*. Several Sarawak males before me have this patch large and confluent. Again, the lines and bands below are said to be sharper and the eye-spots smaller. Both these features are variable in the Sarawak series, and in some the tortuous basal line is very indistinct as noted for his Nias form. The continental form is stated to be smaller and paler. The Sarawak males measure 40-54 mm., the females 43-57 mm. The colouring of both under side and upper side is variable in both sexes. I therefore use the name *orseis* to include the forms now known from Borneo, the Malay Peninsula, Sumatra and Nias. The form from Celebes described by Staudinger certainly seems sufficiently distinct to merit subspecific separation.

³² Fruhstorfer comments on the rarity of this species thus:—"Dr. Martin only netted four in Sumatra in thirteen years. *I received from Waterstradt the one female out of a collection containing 20,000 specimens.*" (The italics are mine.) Dr. Sharp has called attention to a similar figure in his volume on Insects in the *Cambridge Natural History*, illustrating the depredations of the professional collector.

³³ This form seems sufficiently close to *melindena* to be considered a subspecies of it. Probably both should be regarded as subspecies of the continental *crisilda* Hew. Fruhstorfer and others regard the two as distinct species.

Shelford lists *R. melita* Staud. from Kinabalu. Fruhstorfer merges it as a synonym of *annulata*.

³⁴ Fruhstorfer divides this species into four geographical races on what seem to me totally insufficient grounds. He calls the Bornean form *umbrata*.

70. *M. ZITENIUS* Herbst. *rufinus* Fruhst.
Borneo; India to Tonkin and south to the Greater Sunda Isles, Lombok, Sumbawa.

Subfam. 3. ELYMNIINÆ.

71. ELYMNIAS PANTHERA Fab. *labuana* Staud.³⁵
Borneo; Malay Peninsula, Sumatra, Java, Nicobars to Engano, Bali.
72. *E. DARA* Dist. *dara* Dist.
Borneo (Mt. Kinabalu, British North Borneo and Sarawak); Palawan, Java, Sumatra and Burma.
73. *E. NIGRESCENS* Butl. *nigrescens* Butl.³⁶
Borneo; Formosa and Tonkin south to the Malay Peninsula, Sumatra, Lombok, Sumbawa, Sumba, Timor.

³⁵ The eight males in the Sarawak Museum come from North Borneo. From the colouring of the upper side they may be referred to five different forms:—(i) with pale marginal band entirely absent in fore wing, but well-developed in the hind wing; (ii) similar, but pale band twice as broad in hind wing; (iii) similar to (i), but faint trace of marginal band in fore wing culminating in noticeable pale streak below costa; (iv) bands on both wings very indistinct; and (v) pale bands on both wings narrow but conspicuous.

Even in this short series some suggest intermediate stages, and I do not doubt that a long series would provide small gradations between all the above forms. The band in (ii) is pale dull gold, in the others yellowish white lightly washed with brown. In such a variable species it seems unsafe to separate the Bornean form from typical *pantherina*, which is referred by Fruhstorfer to the Malay Peninsula. In any case Fruhstorfer's *alfredi* as a geographical race from South-east Borneo must go, as it occurs on Kinabalu with *labuana*. He differentiates two forms of female: (i) "with dull, but extensive red gloss on the fore wings" = *pantherina*, and (ii) "with much narrower, darker yellow-brown submarginal region of the hind wings, which is also covered with brown scales" = *alfredi*.

³⁶ Shelford regards *hecate* as a distinct species. Fruhstorfer suggests it is the hill form or dry-season form of *nigrescens*. Shelford has already pointed out that it occurs in low country with *nigrescens*, and the capture of specimens in November and February preclude the idea of a dry-season form. I regard it as an extreme form of *nigrescens*, but inseparable as such, since there are specimens before me giving a complete gradation from it to the typical form.

Fruhstorfer distinguishes three female forms: *pseudagrina* with submarginal spots predominantly white, *edela* with submarginal spots blue, and *virilis* with red distal borders to both wings and without white spots. Sarawak specimens show intermediates, so I prefer not to burden our list with further names. The naming of distinct forms, *which are never connected by intermediates*, is useful; but where there is room for doubt as to which form an individual ought to be referred, it seems to me infinitely preferable to abstain from naming those forms altogether, however far apart the extremes of a gradation may be. Suffice it that they belong to one species; and it is not always easy to make sure of that!

74. *E. NESÆA* Linn. *hypereides* Fruhst.³⁷
North Borneo, Sarawak; Sikkim and Assam south
to the Greater Sunda Isles.
75. *E. NESÆA* Linn. *cœlifrons* Fruhst.
South-east Borneo.
76. *E. PELLUCIDA* Fruhst.
N. Borneo (Mt. Kinabalu), Sarawak (Mt. Penrissen).
77. *E. HARTERTI* Honr. *brookei* Shelford.
Labuan, Sarawak; Perak.
78. *E. SMITHI* Moulton.³⁸
Sarawak (Mt. Molu).
79. *E. PENANGA* Westw. *konga* Gr.-Sm.³⁹
North Borneo, Sarawak; Burma, Malay Peninsula,
Sumatra.

³⁷ Recorded by Shelford as *Elymnias lais* Cr.

³⁸ Shelford recognized two species in Borneo: *E. penanga trepsichroides* and *E. abrisa konga*. According to Fruhstorfer, Distant's male *abrisa* is really a female, and if this is the case, Fruhstorfer is probably right in accepting but one species, viz. *penanga*, which is characterized by one male form and three female forms.

Fruhstorfer names the three female forms occurring in Borneo as *konga* Gr.-Sm. (typical form), *mehidina* Fruhst. (*trepsichroides* Shelford) and *ptychandrina* Fruhst. As Shelford's name has three years' priority over *mehidina*, I accept it in preference to Fruhstorfer's name.

Of *konga*, Fruhstorfer writes: "The male has three subapical blue streaks on the upper side of the fore wing instead of five, like the other local forms." Two Sarawak specimens have five streaks, five others only three.

³⁹ "ELYMNIAS SMITHI, sp. n.—*Female*.—Upper side: a rough mimic of female *Euplœa diocletianus lowi*. Forewing: brown-fuscous, a rusty-brown tinge on inner marginal area; three large confluent internervular white spots obliquely placed beyond cell, the lowest below the third median nervule, but not reaching the second median nervule. Some white scales about the centre of costa. Hind wing: more rusty-brown than in fore wing, especially in the post-discal and apical region; a white patch in lower corner of cell, slightly extending beyond cell below, but not above, the radial nervure, and spreading more below median nervure from base of second and third median nervules to the submedian nervure. Cilia white. Under side: mottled fuscous relieved by white distal patch in fore wing and white discal patch in hind wing. A submarginal row (on the hind wing only) of five small black internervular spots inwardly touched with white scales. The hind margin of the fore wing is conspicuously scalloped as in *E. nesæa*; the largest tooth-like projection between third and second median nervules. The hind wing also scalloped; prominent tail formed by prolongation of third median nervule. Exp. al. 77 mm.

"Type and only known specimen collected by Professor Harrison W. Smith on or near Mt. Molu, Sarawak, in 1912.

"As the male is unknown, it is impossible to assign any definite place for this species in the genus *Elymnias*. But for the fact of its being a Euplœine mimic instead of Danaine, I should have placed it near *hypermnestra* and *caudata*. On coloration alone I place it provisionally near *hicetina* which it resembles roughly. The tailed hind wing of course separates it from this Celebes species, and the white patch on the hind wing is nearer the base in *smithi*. In *hicetina* it is clear of the cell. The distal white marks of the fore wing are about half the size of those in *hicetina*." (*Entomologist*, May 1915, p. 98, pl. vi., figs. 1, and 2.

80. *E. ESACA* Westw. *borneensis* Wall.
North Borneo (Mt. Kinabalu), Sarawak; Malay Peninsula, Sumatra, Philippines.
81. *E. ESACA* Westw. *teniola* Fruhst.
South-east Borneo.

Subfam. 4. AMATHUSIINÆ.

82. *FAUNIS ARCESILAUS* Fab. *borneensis* Fruhst.
Borneo, Natunas; Burma, Malay Peninsula, Sumatra, Nias, Java.
83. *F. KIRATA* de Nicév.
Neomalaya (Borneo, Malay Peninsula, Sumatra).
84. *F. GRACILIS* Butl.
Neomalaya (Borneo, Malay Peninsula, Sumatra).
85. *F. STOMPHAX* Westw. *stomphax* Westw.
Borneo (Sarawak and South-east Borneo); Palawan.
86. *F. STOMPHAX* Westw. *barrauti* Moulton.⁴⁰
North Borneo (Mt. Kinabalu and Limbang).
87. *F. BESA* Hew.⁴¹
Borneo.
88. *XANTHOTÆNIA BUSIRIS* Westw. *burra* Stich.
Borneo; Tenasserim, Malay Peninsula, Sumatra, Nias, Mentawai.

⁴⁰ "*FAUNIS STOMPHAX BARRAUTI*, subsp. n.—Differs from typical *stomphax*, in lacking the white band across the apex of fore wing below. A thin dark brown line replaces it in *barrauti*.

"*Habitat*.—North Borneo (Mt. Kinabalu, Marapok Mts. and Limbang). Further west and south it is replaced by typical *stomphax*, which Fruhstorfer states also occurs in the Kinabalu district. All the individuals collected on my recent expedition there are referable to *barrauti*, as also specimens from Northern Sarawak (Marapok Mts. and Limbang); the only typical *stomphax* before me come from Western Sarawak.

"Named in honour of the Hon. E. H. Barraut, Resident of the West Coast, British North Borneo, to whom I am greatly indebted for much kind help in facilitating my expedition to Kinabalu." (*Entomologist*, May, 1915, p. 99.)

⁴¹ Fruhstorfer treats this species as a form of *stomphax*. His *besa* is no doubt the same as *barrauti* described above. Hewitson's *besa* is a different insect, with more rounded hind wings and differently placed band on hind wing below (*vide* key to the species at the end of this paper). Hewitson gives "Borneo" only as locality. The single female in the Sarawak Museum comes from Limbang.

89. *TÆNARIS HORSFIELDI* Swains. *occulta* Gr.-Sm.⁴²
Borneo ; Singapore, Sumatra, Java, Palawan.
90. *AMATHUSIA PHIDIPPUS* Linn. *dilutus* Fruhst.
Borneo ; Burma and the Philippines south to Java
and Celebes.
91. *A. SCHONBERGI* Honr. *borneensis* Fruhst.
South Borneo ; Perak and Sumatra.
92. *A. OCHRACEOFUSCA* Honr. *gabriela* Fruhst.
South Borneo ; Perak and Sumatra.
93. *A. PERAKANA* Honr. *staudingeri* Röber.
South-east Borneo ; Malay Peninsula, Natunas,
Java, Lombok.
94. *A. MASINA* Fruhst. *masina* Fruhst.⁴³
Borneo (Sarawak and South-east Borneo) ;
Bangka.
95. *AMATHUXIDIA AMYTHAON* Doubl. *ottomana* Butl.
North Borneo and Sarawak ; Burma, Sumatra, Java,
Philippines.
96. *A. AMYTHAON* Doubl. *octacilia* Fruhst.
South-east Borneo.
97. *ZEUXIDIA AMETHYSTUS* Butl. *wallacei* Feld.⁴⁴
Borneo ; Malay Peninsula, Sumatra, Palawan,
Mindanao.

⁴² Fruhstorfer states that this subspecies "does not differ from *birchi* in any essential character, as far as I can tell from Distant's figure," and he suggests that *birchi*, which is only known from a single Singapore specimen, really comes from Borneo.

A good series in the Sarawak Museum from several localities in Borneo agree in one feature, wherein they all differ from *birchi*; that is, the greater development of the black scaling at the base of the hind wing below. In *occulta* this is slightly concave below costa as if to make room for the costal ocellus, and then markedly convex before continuing to the inner margin. In *birchi* this basal region is obliquely marked off from costa direct to inner margin. It appears to be a local race in Borneo; the late Messrs. Bartlett and Shelford, who were so successful in forming the greater part of the Sarawak Museum collection, from 1894 to 1904, failed to obtain it. The establishment of prolific *Homo sapiens* and his works in Singapore is sufficient to account for the rarity and probable extinction of *Tænaris horsfieldi birchi*.

⁴³ Omitted by Shelford.

⁴⁴ Shelford records both *amethystus* and *wallacei* from Borneo.

98. *Z. DOUBLEDAYI* Westw. *doubledayi* Westw.⁴⁵
Borneo ; Malay Peninsula, Sumatra, Bangka.
99. *Z. AURELIUS* Cr. *aureliana* Honr.⁴⁶
Borneo ; Malay Peninsula, Sumatra.
100. *THAUMANTIS LUCIPOR* Westw.⁴⁷
Neomalaya (Borneo, Malay Peninsula, Sumatra).
101. *T. NOUREDDIN* Westw.⁴⁸
Neomalaya (Borneo, Malay Peninsula, Sumatra).
102. *T. ODANA* Godt. *cyclops* Röber.⁴⁹
Borneo ; Malay Peninsula, Sumatra, Nias, Java.
103. *THAURIA ALIRIS* Westw. *aliris* Westw.
Borneo ; Malay Peninsula, Burma and Tonkin.

Subfam. 5. DISCOPHORINÆ.

104. *DISCOPHORA TULLIA* Cr. *symphronia* Fruhst.⁵⁰
Neomalaya (Borneo, Malay Peninsula, Sumatra) ;
Java, Bali, India, China, Philippines.

⁴⁵ Spelt *doubledaii* originally and by most subsequent authors. Fruhstorfer separates the form from South-east Borneo as *horsfieldi* Feld., on account of "the reduced violet-blue oblique bars on the fore wings of females." Three Sarawak females vary in this point, so much so that I have no hesitation in merging this subspecific name with typical *doubledaii*.

Z. pryeri Butl., treated by Shelford as a distinct species, is considered by Fruhstorfer to be an abnormal form (only known from one male) of *Z. doubledayi*.

⁴⁶ Fruhstorfer describes a second subspecies, *euthycrite*, from North Borneo; distinguished from the South-east Bornean form *aureliana* by its larger size, darker blue subapical bands in the male, and more richly white marked females.

The Sarawak males measure 107–126 mm. in expanse of wings; the single female 140 mm. The blue of the subapical band in the males is distinctly lighter in one large specimen than in the smaller. The large female, which on size alone should be referred to *euthycrite*, has the white markings less richly developed than in *aureliana* figured by Fruhstorfer. I therefore recognize but one subspecies in Borneo, viz. *aureliana*.

⁴⁷ The Sumatran form *candika* Fruhst. seems inseparable from a variable Sarawak series. Thus the ocelli on the hind wing below of the males are often very much reduced, so much so that one or other is absent altogether. Similarly a female from Sarawak has the fulvous apical markings in the fore wing above even more reduced than in the figure of *candika*.

⁴⁸ Fruhstorfer recognizes four geographical races of this species, all founded on variable characters which are fully represented by a Sarawak series before me. He gives the name *chatra* to North Bornean forms and Stichel's name *sultanus* to those from South Borneo. Sarawak males vary in size from 87–97 mm., the females from 92–107 mm.

⁴⁹ The North Bornean form is separated by Fruhstorfer as *panwila*; the differences appear to be very slight.

⁵⁰ Recorded by Shelford and others as *sondaica* Boisduv., which name is now restricted to the Javan subspecies.

105. *D. SIMPLEX* Staud. *amethystina* Stich.
North Borneo (Mt. Kinabalu); Palawan.
106. *D. NECHO* Feld. *cheops* Feld.
North Borneo; Malay Peninsula, Sumatra, Nias,
Java, Palawan, Philippines.
107. *D. NECHO* Feld. *helvidius* Fruhst.
South-east Borneo.
108. *ENISPE EUTHYMIUS* Doubl. *milvus* Staud.
North Borneo (Mt. Kinabalu); Sikkim, Assam,
Burma, Sumatra.

Subfam. 6. NYMPHALINÆ.

109. *ERGOLIS ARIADNE* Linn. *ariadne* Linn.
Borneo, Sumatra, Malay Peninsula, Java; India
and China to Celebes and Flores.
110. *E. SPECULARIA* Fruhst. *specularia* Fruhst.
South-east Borneo, Java; Siam, Sumbawa.
111. *E. ISÆUS* Wall. *isæus* Wall.⁵¹
West Borneo (Pontianak), Malay Peninsula and
Sumatra; Nias, Java.
112. *LARINGA CASTELNAUI* Feld. *castelnavi* Feld.⁵²
Borneo, Tenasserim, Malay Peninsula, Sumatra;
Nias, Java.
113. *CUPHA ERYMANTHIS* Drury *lotis* Sulz.⁵³
Borneo, India, Burma, Malay Peninsula, Sumatra;
Java, China, Palawan.
114. *C. ARIAS* Feld. *cacina* Fruhst.
North Borneo (Mantanani Isle), Palawan; Philip-
pines, Celebes.

⁵¹ Omitted by Shelford.

⁵² Fruhstorfer separates the Bornean as *ochus* on the characters of the male which he describes as much larger and of darker blue ground colour, with the apex of fore wings more clouded with black and the under side showing more extended and darker black bands on both wings.

Two males in the Sarawak Museum from British North Borneo are rather darker blue than another from Sarawak, which agrees well with Distant's figure of a Malay Peninsula specimen; females from British North Borneo are similarly not to be distinguished, so I merge Fruhstorfer's name with the type-form *castelnavi*. (The female was unknown to Fruhstorfer.)

⁵³ Fruhstorfer separates forms from West Sumatra and Borneo as *nagara* on what appear to me to be insufficient grounds. The yellow subapical spot of the fore wing above is more often present—and in some quite conspicuous—seldom obsolete as Fruhstorfer states of Bornean specimens.

115. *ATELLA ALCIPPE* Cr. *alcippoides* Moore.
Borneo, Tenasserim, Malay Peninsula, Sumatra;
Ceylon, Java, Palawan, Moluccas, New Guinea.
116. *ISSORIA SINHA* Koll. *macromalayana* Fruhst.
Borneo, Malay Peninsula, Sumatra, Java, Palawan,
Philippines; India, Moluccas, New Guinea, Samoa,
Solomon Isles.
117. *CYNTHIA EROTA* Fab. *erotella* Butl.
Borneo, Malay Peninsula, Sumatra, Java; India,
Lesser Sunda Isles, Celebes, Philippines.
118. *DUCAPA FASCIATA* Feld. *alleni* Moulton.⁵⁴
Borneo (Mt. Kinabalu and Sarawak); Tenasserim,
Malay Peninsula, Sumatra, Java, Palawan, Philip-
pines.
119. *CIRROCHROA TYCHE* Feld. *thilina* Fruhst.⁵⁵
North Borneo and Sarawak; India, Burma, Malay
Peninsula, Sumatra, Java, Palawan and Philippines.
120. *C. EMALEA* Guér. *ravana* Moore.⁵⁶
Borneo; Malay Peninsula, Sumatra, Nias, Java.
121. *C. MALAYA* Feld. *calypso* Wall.⁵⁷
N. Borneo and Sarawak; Malay Peninsula, Sumatra.

⁵⁴ “*DUCAPA FASCIATA ALLENI*, subsp. nov.—Differs from the continental form figured by Moore (*Lepidoptera Indica*, iv. pl. 363, figs. 3, 3a, 3b, 3c) in the much narrower yellow postmedian band on the hind wing above, which is only half as broad (or less) as the succeeding (distally) fuscous band of ground colour. By this character alone *alleni* in both sexes can be distinguished from all other races, in which the yellow postmedian band is broader than the distal band of fuscous ground-colour.

“The yellow spots of the fore wing above are also reduced in both sexes, especially in the female, which differs from the male in having the median yellow band nearly twice as broad.

“A local species in Borneo. The Sarawak Museum series comes from Mt. Kinabalu, Baram, Tatau and Banting; at the last-mentioned locality I obtained it first in 1909. There is a Mission station here in charge of the Rev. G. Dexter Allen, with whom I stayed on that occasion and after whom I now name this subspecies.

“Fruhstorfer, Bingham and de Nicéville place this in the genus *Cirrochroa*, but I prefer to follow Moore and Shelford in giving it full generic distinction.” (*Vide* the characters shown in the key on p. 248). (*Entomologist*, May, 1915, p. 99.)

⁵⁵ Recorded by Shelford as *C. mithila rotundata* Butl. The Bengal form is now known as *mithila*, and that from the Malay Peninsula as *rotundata*, from which this Bornean form differs in having a well-developed fuscous marginal border.

⁵⁶ Fruhstorfer states that *emalea* Guérin is the Malayan form, and therefore replaces Moore's long-used name *bajadeta*.

⁵⁷ A form “peculiar to the mountains and rainy season” is described by Fruhstorfer as *baluna*, from Kinabalu. I can find no constant difference between Kinabalu specimens and a series from Sarawak mountains and lowlands.

122. *C. SATELLITA* Butl.⁵⁸
North Borneo and Sarawak, Malay Peninsula,
Sumatra, Palawan.
123. *C. ORISSA* Feld. *orissides* Fruhst.
North Borneo and Sarawak; Malay Peninsula,
Sumatra.
124. *TERINOS TERPANDER* Hew. *terpander* Hew.⁵⁹
Borneo; Malay Peninsula, Natunas, Sumatra, Nias,
Banka, Java.
125. *T. CLARISSA* Boisd. *nympha* Wall.⁶⁰
Borneo; Siam, Malay Peninsula, Sumatra, Java,
Palawan, Philippines.
126. *T. ATLITA* Fab. *albonotata* Moulton.⁶¹
Sarawak; Malay Peninsula, Sumatra.
127. *T. FULMINANS* Butl.⁶²
Borneo.

⁵⁸ Fruhstorfer separates the Bornean form as *illergata* on a difference in the orange band of fore wing which, he states (and figures), does not broaden towards the anal angle. Some Kuching specimens agree with this, but others, including one from Kinabalu (whence Fruhstorfer describes the form), have the band broaden in goutanally as in examples from the Malay Peninsula and Sumatra.

⁵⁹ Recorded as *T. fulminans* Butl. by Shelford, who wrote, "*Terinos terpander* Hew. (syn. *T. nympha* Wall.) seem to have been wrongly recorded from Borneo, the species is confined to Sumatra." This is quite at variance with Fruhstorfer's arrangement, which seems more reasonable.

⁶⁰ Shelford gives this as *clarissa*.

⁶¹ "*TERINOS ATLITA ALBONOTATA*, subsp. nov.—Recorded by Shelford as *teuthras* Hew., from which it differs, on comparison with Distant's figure of the upper side, in the absence of fuscous scales at the base of the inner margin in fore wing and in cell of hind wing, in the fuscous scales of the inner margin in hind wing extending to the first median nervule, and in the much reduced white distal edging to the two large violet-white subanal spots on the hind wing.

"Type and only known specimen (a male) from Simanggang, Sarawak, August, 1900.

"The colouring above is very different to that of *fulminans*, with which it agrees, however, on the under side and square caudate hind wing." (*Entomologist*, May, 1915, pp. 99, 100.)

⁶² Fruhstorfer places *T. fulminans* as a subspecies of *atlites*, but in view of the occurrence of another subspecies (just described above) in Sarawak, it would appear preferable to give it specific distinction. The under sides of *fulminans* and *albonotata* are exactly similar, but the upper sides are entirely different. Fruhstorfer notes that *fulminans* occurs in both North and South-east Borneo; it is in the Sarawak Museum from Kinabalu, but not from Sarawak. It is, of course, possible that *albonotata* takes its place there, but the upper side is sufficiently different to render this unlikely to my mind.

128. CETHOSIA BIBLIS Drury *sandakana* Fruhst.
North Borneo (Sandakan); India, China, Malaya.
129. C. HYPSEA Doubl. *hypsea* Doubl.
Borneo; Malay Peninsula, Sumatra, Java, Banka,
Palawan.
130. PRECIS IPHITA Cr. *horsfieldi* Moore.⁶³
Borneo, Malay Peninsula, Sumatra, Java, Palawan;
China, India, Ceylon, Sumba, Lombok.
131. P. HEDONIA Linn. *ida* Cr.
Borneo, Malay Peninsula, Sumatra, Java, Philip-
pines; Celebes, Moluccas, New Guinea, Australia.
132. P. ATLITES Linn. *atlites* Linn.
Borneo, India, China and Malaya; Celebes.
133. P. ALMANA Linn. *javana* Feld.
North Borneo, Malay Peninsula, Sumatra, Java,
Lombok; India, China, Japan, Philippines, Celebes,
Sumba, Sumbawa.
134. P. ORITHYA Linn. *metion* Fruhst.⁶⁴
Borneo; China, India, Malaya, Australia, Africa.
135. VANESSA CANACE Linn. *perakana* Dist.⁶⁵
North Borneo (Kinabalu), Perak; Sumatra, Java,
Philippines, Japan, China, India and Ceylon.

⁶³ Shelford demurred to the splitting of *Precis iphita* into subspecies on the grounds of its variability and our lack of breeding experiments; but he accepted Fruhstorfer's name *tosca* for the Sumatran and Bornean forms. The Sarawak series is very variable in colour, and on that character alone embraces the forms recognized by Fruhstorfer as *tosca* (Sumatra), *horsfieldi* (Perak, Java, Bali), *viridis* (Kinabalu), *neglecta* (Sandakan) and *adelaida* (Palawan).

From the continental form all these forms may be known by the broader and more pronounced dark postmedian band of the hind wing above. In the fore wing the dark median band in Bornean specimens is usually much produced distally at the cell to touch the postmedian band, but in two examples there is an even band of light grey-green or grey-brown from costa to inner margin uninterrupted, though angled at cell.

Subspecific names, it seems to me, should be given only when we are completely satisfied that the forms so separated really represent distinct geographical races. With a variable widespread species this is extremely difficult to settle, and a "blanket" name is better employed provisionally.

⁶⁴ Recorded by Shelford and others as *P. orithya wallacei* Dist., which occurs in the Malay Peninsula and differs from the Bornean form in a few small, but apparently constant, features.

⁶⁵ The Bornean form is separated by Fruhstorfer as *maniliana* on "the presence of the very broad, light blue band on the fore wing, which is united with the discoidal spot," and the darker under side. A good series from Kinabalu shows no difference in the width of fore wing on comparison with Distant's figure of *perakana*, and the discoidal spot is certainly separated in most. The under side is certainly a little darker, but this counts for nothing in a procryptic pattern of the *Vanessa* type.

136. SYMBRENTHIA HIPPOCLUS Cr. *marius* Fruhst.
Borneo; India, China, Malaya to New Guinea.
137. S. HYPSELIS Godt. *balunda* Staud.
North Borneo (Mt. Kinabalu) and South-east Borneo;
China, India, Malay Peninsula, Sumatra, Nias, Java,
Bali and Palawan.
138. S. HYPATIA Wall. *hippocrene* Staud.
North Borneo and Sarawak; Malay Peninsula,
Sumatra, Java.
139. RHINOPALPA POLYNICE Cr. *helionice* Fruhst.
North Borneo and Sarawak; Burma, Malay Penin-
sula, Sumatra, Java, Philippines, Celebes.
140. HYPOLIMNAS ANTILOPE Cr. *anomala* Wall.⁶⁶
Borneo, Malay Peninsula, Sumatra, Java; Nias,
Lesser Sunda Isles, Philippines, Celebes, Moluccas,
New Guinea.
141. H. MISIPPUS Linn.⁶⁷
Borneo, Oriental, Ethiopian, Neotropical, Nearctic
Regions.
142. H. BOLINA Linn. *bolina* Linn.⁶⁸
Borneo, India, Malay Peninsula and Archipelago to
Philippines, Borneo, Java; Moluccas, New Guinea,
Australia.
143. DOLESCHALLIA BISALTIDE Cr. *borneensis* Fruhst.
Borneo; India and Malaya to the Bismarck
Archipelago.

⁶⁶ A large and variable series in the Sarawak Museum, from Sarawak and North Borneo, shows that Fruhstorfer's *interstincta* cannot be kept separate from *anomala*.

⁶⁷ Shelford noted that he had not met with it in Sarawak. In June, 1910, a male was taken in the neighbourhood of Kuching, Sarawak, and two more in August, 1911.

⁶⁸ As Shelford observes, this species is so variable that it does not seem possible to divide it up into constant races. Nevertheless, Fruhstorfer has made a bold attempt, utilizing a fine array of names old and new for different races and forms. In regard to the Bornean forms this does not seem to be successful; for instance, *labuana* from North Borneo is characterized by the absence of white-blue submarginal dots on the upper side of the males, according to Fruhstorfer; but some Sarawak males have them, some are without. The different female forms are listed in a footnote to the key to *Hypolimnas* species (see p. 253).

144. KALLIMA INACHUS Boisd. *buxtoni* Moore.⁶⁹
Borneo; India, China, Malay Peninsula, Greater Sunda Isles.
145. AMNOSIA DECORA Doubl. & Hew. *baluana* Fruhst.⁷⁰
Borneo; Malay Peninsula, Sumatra, Nias, Java.
146. STIBOCHIONA SCHÖENBERGI Honr.⁷¹
N. Borneo (Mt. Kinabalu) and Sarawak (Mt. Matang).
147. CYRESTIS COCLES Fab. *sericeus* Butl.⁷²
Borneo; India, Assam, Tenasserim, Hainan.
148. C. NIVEA Zink.-Somm. *nivalis* Feld.⁷³
Borneo, Malay Peninsula, Sumatra, Burma; Philippines, Java to Sumbawa.
149. C. MÆNALIS Erichs. *seminigra* Gr.-Sm.
Borneo; Malay Peninsula, Sumatra, Nias, Philippines.
150. C. THERESÆ de Nicév.⁷⁴
Borneo, Sumatra.
151. CHERSONESIA RISA Doubl. *cyaneæ* de Nicév.⁷⁵
North Borneo (Mt. Kinabalu), Sumatra; Himalayas, Tonkin, Annam.
152. C. EXCELLENS Mart.⁷⁵
North Borneo (Mt. Kinabalu).
153. C. RAHRIA Moore.
Borneo, Malay Peninsula, Sumatra, Nias, Java; Celebes.
154. C. INTERMEDIA Mart.⁷⁵
Neomalaya (Borneo, Malay Peninsula, Sumatra).

⁶⁹ Fruhstorfer treats this as a subspecies of the Burmese form *limborgi*, *i.e.* specifically distinct from the more northern *inachus*. They appear to be obviously geographical races of one species.

⁷⁰ The form described as *petronia* Fruhst. from "the low plains of Northern Borneo" does not appear to differ from several examples before me from Kinabalu and Sarawak. The white-banded female from Banjarmasin, known as *martini* Honr., is surely only an aberration.

⁷¹ Fruhstorfer mentions three minute white dots below the costal spot on the under side of fore wing in the male; these are absent in the only Sarawak male in the Sarawak Museum.

⁷² A very distinct form, perhaps worthy of specific distinction.

⁷³ *C. nivea borneensis* Fruhst. is founded on a small point in the colouring of the anal region of the hind wing. A series from Sarawak and Kinabalu before me shows that this is variable and that some specimens cannot be separated from *C. nivea nivalis*, under which name I re-unite the Bornean form.

⁷⁴ Shelford records both *C. theresæ* and *C. neela* from Borneo, suggesting, however, that they may be synonymous, which Fruhstorfer now corroborates, noting that *C. theresæ* has priority by six months.

⁷⁵ Not recorded by Shelford.

155. *C. PERAKA* Dist.
Borneo, Tenasserim, Malay Peninsula, Sumatra,
Nias, Java, Bali.
156. *RAHINDA HORDONIA* Stoll. *senthes* Fruhst.⁷⁶
Borneo, Sumatra; India, Burma, Formosa, Malay
Peninsula, Nias, Java, Bali, Sumbawa.
157. *R. PARAKA* Butl. *paraka* Butl.
Borneo, Tenasserim, Malay Peninsula, Sumatra,
Java, Banka, Palawan; Assam, Burma.
158. *R. DINDINGA* Butl. *dindinga* Butl.
Borneo, Burma, Malay Peninsula; Sumatra.
159. *R. AURELIA* Staud.
Borneo, Assam, Tenasserim, Malay Peninsula,
Sumatra.
160. *NEPTIS HYLAS* Linn. *sopatra* Fruhst.⁷⁷
Borneo; Germany to Japan and south to Celebes
and the Lesser Sunda Isles.
161. *N. MAGADHA* Feld. *plautia* Fruhst.⁷⁸
North Borneo (Mt. Kinabalu); Burma, Annam,
Malay Peninsula, Java, Sumatra.
162. *N. DURYODANA* Moore *duryodana* Moore.
Borneo; Malay Peninsula, Sumatra, Java, Palawan.
163. *N. NATA* Moore *nata* Moore.
Borneo (except mountains and South-east Borneo);
Tonkin, Malay Peninsula, Sumatra, Nias, Java.
164. *N. NATA* Moore *rasilis* Fruhst.⁷⁸
North Borneo (Mt. Kinabalu).
165. *N. NATA* Moore *egestas* Fruhst.⁷⁸
South-east Borneo.
166. *N. NANDINA* Moore *ila* Fruhst.⁷⁹
North Borneo (Mt. Kinabalu); India to Formosa,
Philippines, Malay Peninsula and Archipelago to
Lombok and Flores.

⁷⁶ This and the next three species are placed in the *Rahinda* section of the genus *Neptis* by Shelford. The position of the second subcostal nervule in the fore wing seems to justify Fruhstorfer in giving this section full generic distinction.

⁷⁷ Recorded by Shelford as *N. leucothæ matuta* Hübn. Fruhstorfer shows that *hylas* is the older specific name, and that *matuta* should be confined to the Javan form.

⁷⁸ Omitted by Shelford.

⁷⁹ Recorded by Shelford as *susruta* Moore, which is now used for the form from Upper Burma and the Himalayas.

167. N. HELIODORE Fab. *dorelia* Butl.⁸⁰
Borneo, Malay Peninsula; Sumatra, Nias, Java,
Burma, Siam.
168. N. VIKASI Horsf. *salpona* Fruhst.⁸¹
North Borneo, Sarawak; Malay Peninsula, Sumatra,
Java, Celebes, Palawan, Philippines, Tonkin,
India.
169. N. ANJANA Moore *discerna* Fruhst.⁸²
Borneo; Malay Peninsula, Sumatra, Nias, Java,
Palawan.
170. N. MIAH Moore *sarochoa* Fruhst.⁸³
Sarawak, Malay Peninsula; China, Sikkim, Assam,
Sumatra, Java.
171. N. MIAH Moore *digitia* Fruhst.
North Borneo (Mt. Kinabalu).
172. N. FULIGINOSA Moore *arnoldi* Fruhst.
Borneo; Tenasserim, Malay Peninsula, Banka,
Sumatra.
173. PANTOPORIA PRAVARA Moore *pravara* Moore.⁸⁴
Borneo; Assam, Burma, Tenasserim, Malay Penin-
sula, Sumatra, Java, Palawan.

⁸⁰ Shelford records both *siaka* and *heliodore* from Borneo; the former is the Sumatran form of *heliodore*, which occurs typically in Siam.

⁸¹ Recorded by Shelford as *harita* (the Indian form), which he suggests is only a subspecies of *vikasi*. He also records the Sumatran form *omeroda* from Borneo as a separate species, remarking on its close resemblance to *vikasi* and *harita*. As Fruhstorfer places it, it is undoubtedly only the Sumatran representative of *vikasi*, slightly differing from the Bornean form, which Fruhstorfer has separated as *salpona*.

⁸² Fruhstorfer recognizes two forms from Borneo: *discerna* from the south-east, distinguished by very narrow grey-brown stripes above, and *elegantia* from Kinabalu, distinguished by the broader, yellower bands above, and more intensely violet colouring below.

The Sarawak series includes sufficient variations to suggest that the two forms are hardly separable, and I prefer to unite them under the one name *discerna*. Shelford recorded them as *anjana* (the Malay Peninsula form, which appears to be distinct).

⁸³ The Sarawak specimens were identified by Shelford as *miah batara* Moore, which, however, refers to the broader banded form from Sumatra. They are certainly separable from the Kinabalu form, and if not worthy of subspecific distinction themselves, are better placed with the Malay Peninsula form, which Fruhstorfer has named *miah sarochoa*.

⁸⁴ In the same group as this species is *P. perius* Linn., which Fruhstorfer records from "the Sunda Islands from Sumatra to Sumbawa, Sumba." I can find no record of it for Borneo.

174. P. ASURA Moore *anaka* Fruhst.⁸⁵
Borneo; South China, Burma, Formosa, Malay Peninsula, Sumatra, Banka, Java.
175. P. LARYMNA Doubl. *elisa* Fruhst.
Borneo; Tenasserim, Siam, Malay Peninsula, Sumatra, Banka, Nias, Java.
176. P. KANWA Moore *kanwa* Moore.
Borneo, Singapore; Burma, Assam, Sumatra, Banka, Nias.
177. P. RETA Moore *kresna* Moore.⁸⁶
Borneo; Assam, Burma, Malay Peninsula, Sumatra, Banka, Nias, Mentawai.
178. P. ABIASA Moore *matanga* Fruhst.⁸⁷
Borneo; Malay Peninsula, Sumatra, Banka, Nias, Java.
179. P. SELENOPHORA Koll. *amhara* Druce.⁸⁸
North Borneo (Mt. Kinabalu) and Sarawak (Mt. Matang); India, China, Burma, Malay Peninsula, Sumatra, Java.
180. P. EULOCA Shelfd.⁸⁹
Sarawak (Mt. Matang).
181. P. CAMA Moore *ambra* Staud.⁹⁰
North Borneo (Mt. Kinabalu); Perak, Sumatra, Formosa, Assam, Himalayas.

⁸⁵ Shelford records this as *Athyma idita* Moore, which is now used for the Malay Peninsula form of *asura*.

⁸⁶ The female of this Bornean form is unknown, although Shelford follows Moore in regarding *subrata* Moore as the female of this species. The markings of *subrata* agree much better with *Pantoporia nefte*, and there seems no doubt that Fruhstorfer is right in regarding *subrata* as one of the two female forms of that species.

⁸⁷ Recorded by Shelford as *abiasa* Moore, which was described from Java, and now designates that race only.

⁸⁸ Recorded by Shelford as a distinct species, with subspecies *amharina* in the Malay Peninsula.

⁸⁹ This species is described from a single male now in the British Museum. Fruhstorfer omits it in his account of the Indo-Australian Nymphalinae in Seitz's *Macro-Lepidoptera of the World*. From the description it appears to be quite distinct from any other species of the genus.

⁹⁰ Fruhstorfer writes of *ambra*: "undoubtedly a variety of the preceding" (*cama*), and then gives it specific distinction. There seems to be no reason for not treating it as a subspecies of *cama*, as Shelford has done.

182. *P. NEFTE* Cr. *matthiola* Fruhst.⁹¹
Borneo ; India to China and south to Sumatra and Java.
183. *LIMENITIS DARAXA* Doubl. & Hew. *viridicans* Fruhst.
North Borneo (Mt. Kinabalu) and Sarawak (Mt. Matang) ; Assam, Burma, Malay Peninsula, Sumatra (Battak Mts.).
184. *L. PROCRIS* Cr. *agnata* Fruhst.
Borneo ; India, China, Burma, Malay Peninsula, Sumatra, Java, Lombok, Flores.
185. *PANDITA SINOPE* Moore *sinoria* Feld.
Borneo, Natunas, Palawan ; Malay Peninsula, Sumatra, Java.
186. *LEBADEA MARTHA* Fab. *martha* Fab.⁹²
Sarawak, Annam, Tonkin, Siam, Tenasserim ; Assam, Sikkim, Bhotan.
187. *L. ALANKARA* Horsf. *paduca* Moore.
Borneo ; Malay Peninsula, Palawan, Sumatra, Banka, Java.
188. *PARTHENOS SYLVIA* Cr. *borneensis* Staud.⁹³
Borneo ; India, Ceylon, Burma, China, Philippines and south to the Greater Sunda Isles, Celebes, New Guinea and the Solomon Islands.
189. *TANÆCIA AMISA* Gr.-Sm.
North Borneo (Mt. Kinabalu).

⁹¹ Recorded by Shelford as *Athyma nefte nivifera*, which designates the broader-banded form from the Malay Peninsula. The grey-brown female was placed by Shelford as the female of *P. kresna*. I have named it *liomattha*, female, form. nov. (See footnote to this species in the following key for identification.)

Fruhstorfer records both female forms, but without naming them. His figured female is the orange-barred form, which may therefore be regarded as typical *matthiola*.

⁹² Shelford records the only known Bornean specimen of this species, and remarks that it "is quite indistinguishable from Burmese males of the wet-season brood."

⁹³ Fruhstorfer describes and figures a subspecies, from South-east Borneo (presumably), as *bellimontis*, differing from typical *borneensis* in the colour of the submarginal band, which is red-brown instead of green. Several Sarawak specimens are so close to this that I prefer to place all the Bornean examples under the one name. Those from the Malay Peninsula and Sumatra also seem doubtfully distinct.

190. *T. PELEA* Fab. *crowleyi* Butl.⁹⁴
North Borneo ; Malay Peninsula, Sumatra, Natunas,
Billiton, Banka.
191. *T. LUTALA* Moore *lutala* Moore.⁹⁵
Borneo ; Sulu Isles.
192. *T. VALMIKIS* Feld.
Borneo, Natunas.
193. *T. ORPHNE* Butl.
North Borneo (Mt. Kinabalu).
194. *T. MUNDA* Fruhst. *munda* Fruhst.⁹⁶
Borneo (mountains) ; Neomalaya (Natunas, Malay
Peninsula, Sumatra).
195. *T. MUNDA* Fruhst. *fruhstorferi* Butl.
Borneo (lowlands).
196. *T. CLATHRATA* Voll. *clathrata* Voll.
Sarawak (low country) and South Borneo ; Perak,
Sumatra.
197. *T. CLATHRATA* Voll. *cœrulescens* Gr.-Sm.
North Borneo and Sarawak (mountains).
198. *T. ARUNA* Feld. *pardalis* Voll.
South Borneo ; Malay Peninsula, Sumatra, Banka,
Sulu Isles.
199. *T. ARUNA* Feld. *apsarasa* Voll.
North Borneo (lowlands) and South-east Borneo.
200. *T. ARUNA* Feld. *subochrea* Butl.⁹⁷
North Borneo (mountains).

⁹⁴ Recorded by Shelford as the Singapore form *consanguinea* Dist., with the statement, "confined to Borneo." This is an inexplicable mistake, as Distant describes and records it from the Malay Peninsula and Singapore only. (See *Rhopalocera Malayana*, p. 440.)

⁹⁵ Vollenhoven's form *varuna* was described from Java ; but Fruhstorfer suggests it probably embraces the South Bornean form. The more distinct black submarginal sagittate spots seem to be the only difference between it and the North Bornean forms. In a variable species this seems insufficient to warrant subspecific separation. The next species *valmikis* seems to me better merged with this species.

⁹⁶ Shelford records it as *T. apsarasa munda*.

⁹⁷ Shelford records as four doubtful species, *T. subochrea* Butl. (which he notes as doubtfully distinct from *lutala*), *T. margarita* Butl. (now regarded by Fruhstorfer as a form of the last), *T. evanescens* and *T. albifasciata* (both of which Shelford would refer to *apsarasa*, but Fruhstorfer places as forms of *munda*).

As noted elsewhere, the Bornean forms of this genus are in a very unsatisfactory condition ; extensive breeding experiments alone will better it.

201. *EUTHALIA* GODARTI Gray *vacillaria* Butl.
Borneo; Malay Peninsula, Sumatra, Nias, Java,
Philippines.
202. *E. COCYTINA* Horsf. *ambalika* Moore.^{98 99}
Borneo; Malay Peninsula, Banka, Sumatra, Sulu
Isles.
203. *E. MONINA* Fab. *bipunctata* Voll.¹⁰⁰
Borneo; Malay Peninsula, Sumatra, Banka, Java,
Bali, Lombok, Sulu Isles.
204. *E. GARUDA* Moore *sandakana* Moore.
Borneo; India, Burma, Malay Peninsula, Sumatra,
Palawan, Sulu Isles.

⁹⁸ Of the seven species of this sub-genus recorded from Borneo up to 1904, Shelford accepted four. Fruhstorfer's bold step now reduces this number to two only, the other so-called "species" being regarded as forms only of the variable *E. cocytina ambalika*.

Whether breeding experiments will bear this out remains to be seen. The number of intermediates certainly favours this arrangement more than that of Shelford, whose differences do not hold good in many examples.

⁹⁹ Butler records *Euthalia tanagra* Staud. from Borneo, as well as from Palawan. Fruhstorfer gives Palawan only. The Bornean record wants confirmation.

¹⁰⁰ Fruhstorfer offers another bold solution to the tangle of *Nora*-forms, by treating the various "species" of other authors as forms of one. Adopting Shelford's list to this arrangement, we have the following synonymy (Fruhstorfer's names on the left, and the corresponding names used by Shelford on the right):—

$$Euthalia monina bipunctata Voll. = \left\{ \begin{array}{l} Euthalia ramada surjas Voll. \\ E. laverna Butl. \\ E. cordelia Fruhst. \\ E. indras Voll. \\ E. indistincta Butl. \\ E. bipunctata Voll. \end{array} \right.$$

Fruhstorfer recognizes the following names for male and female forms (left column); Shelford's names are referred to them in the right column:—

♂ f. <i>typica</i>	= <i>Euthalia bipunctata</i> Voll.
♂ f. <i>stictica</i> Fruhst.	= <i>E. indras</i> Shelford, male.
♂ f. <i>cordelia</i> Fruhst.	= <i>E. cordelia</i> Fruhst.
♂ f. <i>lavernalis</i> de Nicév.	= <i>E. laverna</i> Butl.
♂ f. <i>ilka</i> Fruhst.	= <i>E. cordelia</i> ab. <i>ilka</i> Fruhst.
♂ f. <i>limbata</i> Fruhst.	= <i>E. ramada surjas</i> Voll.

To these may be added, as male-form *indistincta*, the male described by Shelford as a mate to Butler's unique Bornean female (*indistincta* Butl.), which last Fruhstorfer refers to the very different *Euthalia mahadeva zichri* Butl., then known from males only.

Four female forms are separable, though not so distinct as the male forms. These are forma *typica*, *indras* Voll., which occurs in Sarawak as well as South Borneo, *cordelia* and *ilka*. For differences, see note to key for identification.

205. *E. ALPHEDA* Godt. *parta* Moore.¹⁰¹
North Borneo; Malay Peninsula, Sumatra, Banka,
Java, Sulu Isles.
206. *E. ALPHEDA* Godt. *krannon* Fruhst.
South Borneo.
207. *E. MERTA* Moore *apicalis* Voll.¹⁰²
Borneo, Sulu; Malay Peninsula, Tenasserim.
208. *E. KANDA* Moore *kanda* Moore.
Borneo, Malay Peninsula; Burma, Tenasserim,
Sumatra, Nias.
209. *E. TINNA* Fruhst. *tinna* Fruhst.¹⁰³
North Borneo (Mt. Kinabalu) and Sarawak (moun-
tains); Malay Peninsula, Sumatra.
210. *E. ANOSIA* Moore.¹⁰⁴
Borneo, Assam, Sikkim, Malay Peninsula,
Sumatra.
211. *E. EUPHEMIUS* Staud.¹⁰⁵
North Borneo (Mt. Kinabalu).
212. *E. MAHADEVA* Moore *zichri* Butl.¹⁰⁶
Borneo; Sumatra, Palawan, Malay Peninsula,
Tenasserim, Java.

¹⁰¹ The male was recorded by Shelford as *jama* Feld., a name which is now reserved for the Assam species, which represents the insular species *alpheda* on the Continent. Two females in the Sarawak Museum were rightly named *parta* by Shelford.

¹⁰² Both *apicalis* and *eriphyle* were recorded by Shelford from Borneo, the latter on a female, which seems to be the lighter female form of *sandakana*. De Nicéville's species *eriphyle* is confined to Burma and Tonkin.

¹⁰³ Recorded by Shelford as *Euthalia aconthea* Cr. on a short series from Mt. Matang, 3200 ft., Sarawak. A Kinabalu female differs in the slightly smaller whitish spots of the fore wing band. The Matang males agree exactly with Fruhstorfer's excellent figure of *tinna*.

¹⁰⁴ This very distinct species has just (1913) been divided up by Fruhstorfer into six different local races. The differences appear to me insufficient, especially as they are founded in most cases on very few specimens. The three females in the Sarawak Museum are variable.

Fruhstorfer's name for the Bornean form is *yapola*.

¹⁰⁵ Known from one pair only.

¹⁰⁶ Fruhstorfer notes that Butler's name *indistincta* is synonymous with *zichri*. Shelford, however, described a male *Nora* under this name, which I now retain for a male form of *E. monina bipunctata*. (*Vide* note on that species.)

213. *E. LUBENTINA* Cr. *whiteheadi* Gr.-Sm.¹⁰⁷
Mountains of North Borneo and Sarawak; India,
Ceylon, China, Malay Peninsula, Sumatra, Java,
Philippines.
214. *E. LUBENTINA* Cr. *adeonides* Fruhst.
South-east Borneo.
215. *E. ADEONA* Gr.-Sm.¹⁰⁸
North Borneo (Silam).
216. *E. DJATA* Dist. *djata* Dist.
North Borneo (Sandakan) and Sarawak (Kuching);
Palawan.
217. *E. ADONIA* Cr. *montana* Fruhst.
North Borneo (Mt. Kinabalu).
218. *E. BELLATA* Druce *bellata* Druce.
Borneo; Natunas, Malay Peninsula, Tenasserim,
Nias, Sumatra, Java, Palawan.
219. *E. EVELINA* Stoll. *mahonia* Fruhst.¹⁰⁹
Borneo, Sumatra; Malay Peninsula, Burma, China,
India, Ceylon, Sumatra, Java, Celebes, Philippines.

¹⁰⁷ Shelford records a male *whiteheadi* and a female *adonia* "caught together, close to Kuching." The only female now in the Sarawak Museum is labelled "Tabuan (near Kuching), October, 1895." There is no male from this locality in the Museum now, and it should be noted that the Tabuan female was collected before Mr. Shelford's arrival in the country. Now the essential difference between *whiteheadi* and *adonia* lies in the palpi and fore legs, which are whitish in the former, bright red in the latter. Shelford's female *whiteheadi* has both unmistakably red. On these grounds I reject his arrangement and adopt that of Fruhstorfer. The synonymy reads as follows:—

Euthalia lubentina whiteheadi Fruhst. = *Euthalia adonia whiteheadi* Shelfd.
E. adonia montana Fruhst. = *E. lubentina montana* Shelfd.

¹⁰⁸ Fruhstorfer places this species as another subspecies of *lubentina*. But the female is so different from *lubentina whiteheadi* that I cannot accept this; moreover, the males from Matang, which Fruhstorfer suggests are *adeona*, do not differ in the least from the Kinabalu males of *whiteheadi*, so I prefer to regard *adeona* as a distinct species as yet only known from a mateless female.

¹⁰⁹ The forms from the Malay Peninsula, Sumatra and Borneo, were formerly united under *compta* by Fruhstorfer, who, however, now separates them as three distinct races. That from the Malay Peninsula may be distinguished by the presence of three red spots on the hind wing beneath (= *compta*); those from Sumatra and Borneo have but two; the slight differences, *inter se*, appear to be inconstant and insufficient to warrant further separation, so I place the last two under the Sumatran name (*mahonia*), with the Bornean *magama* Fruhst. as a synonym.

In a Sarawak series before me the expanse of wings ranges from 87 mm. (the smallest male) to 115 mm. (the largest female). The coloration is variable beneath; similarly the lunulate hind marginal border of the hind wing may be well marked or obsolescent.

220. *E. DUNYA* Doubl. & Hew. *dunya* Doubl. & Hew.¹¹⁰
Borneo, Tenasserim, Malay Peninsula, Sumatra,
Java; Nias.
221. *E. DIRTEA* Fab. *dirtea* Fab.¹¹¹
Neomalaya (Borneo, Malay Peninsula, Sumatra);
Java, Nias, Palawan, Burma, India, Hainan.
222. *E. CANESCENS* Butl. *canescens* Butl.
Borneo; Malay Peninsula, Sumatra, Banka, Sulu
Isles.
223. *E. CYANIPARDUS* Butl. *sandakanus* Fruhst.
Borneo; Sumatra, Banka, Assam, Siam.
224. *DICHORRAGIA NESIMACHUS* Boisd. *derdas* Fruhst.¹¹²
Borneo; Sumatra, Java, Celebes and Malay Penin-
sula north to India, China and Japan.
225. *APATURA PARISATIS* Westw. *borneana* Fruhst.¹¹³
North Borneo (Mt. Kinabalu); Philippines and
Hong-Kong to Ceylon and the Greater Sunda
Isles.

¹¹⁰ Fruhstorfer divides this variable species into five local races. A Sarawak series covers all the differences mentioned, except those for the well-separated Nias form. I therefore treat Fruhstorfer's three new names as pure synonyms of Doubleday's *dunya*.

¹¹¹ The splitting of this species into numerous subspecies appears to be of doubtful use. I fail to see how Fruhstorfer's Bornean form *chalconides* can be kept separate from typical *dirtea*.

¹¹² Recorded by Shelford as *D. nesimachus mannus* Fruhst., a name which is now retained for the Javanese form only.

¹¹³ Omitted by Shelford.

"The female of the Bornean form appears to be undescribed. I have five before me taken on Mt. Kinabalu in September, 1913, at an altitude of about 3000 ft.

"General colouring above tawny ochreous, close to the Ceylon form *camiba* as figured by Fruhstorfer in Seitz's *Macro-Lepidoptera of the World*, but lacking the rufous tinge of that form. From the same author's figure of *javana* it differs in the more pronounced row of four black spots in the postmedian area of the hind wing above. Beneath, a fifth spot is just visible below the first subcostal nervule. In the fore wing beneath the two apical spots of the submarginal row are white, the next three inwardly edged with black, the sixth large and black, the last also black but smaller.

"A sixth female from the same locality and taken at the same time differs from the above in the absence of all ochreous colouring, the general colour above and below being grey-brown, banded with white instead of orange. For this I propose the name *balua* (female) form. nov." (*Entomologist*, May, 1915, p. 100.)

226. *EULACEURA OSTERIA* Westw. *osteria* Westw.¹¹⁴
Borneo, Sumatra, Malay Peninsula, Java; Nias,
Hainan.
227. *HERONA SUMATRANA* Moore *schœnbergi* Staud.
South-east Borneo; Sumatra, Java, Bali.
228. *EURIPUS HALITHERSES* Doubl. *borneensis* Dist.¹¹⁵
Borneo; Malay Peninsula, Burma, India, Java,
Sumatra, Philippines.
229. *PROTHOE CALYDONIA* Hew.
Neomalaya (Borneo, Malay Peninsula, Sumatra).
230. *P. FRANCKI* Godt. *angelica* Butl.
Borneo, Tenasserim, Malay Peninsula, Sumatra,
Billiton; Java, Banka, Nias, Palawan, Philippines.
231. *CHARAXES DISTANTI* Honr.
Borneo, Tenasserim, Malay Peninsula, Natunas,
Sumatra.

¹¹⁴ Fruhstorfer separates the Bornean form as *jembala* on a dark female from Mt. Marapok. The Sarawak Museum has one answering to the description of this form from Kuching, as well as a white-banded form like typical *osteria* and intermediates, all from the same locality. The Kuching males (and one from Kinabalu) agree well with the Javanese male figured by Fruhstorfer.

The forms from Hainan and Nias seem to be worthy of subspecific distinction, but the others, to my mind, are better "lumped."

¹¹⁵ Shelford raises a word of protest against the piling up of names for a polymorphic species like this. Fruhstorfer's recent work illustrates the possibilities. For instance, *Euripus halitherses*, in the typical form, occurs in Assam and Siam, with twelve different subspecies from neighbouring countries. Now the female in many of these countries is polymorphic; in Assam and Siam Fruhstorfer records, in addition to the typical form, no less than seven others, each of which are named. Granting a similar number to each of our twelve subspecies, we have a little matter of *one hundred and four names* to remember for this one species!

Shelford, who is unwilling to accept the lesser marked forms, justly remarks that it appears less confusing to recognize in the distributional area of the species merely three female forms with distinctive names or numbers, than to name indiscriminately every topomorph differing from closely relating topomorphs in most trifling details.

It might, perhaps, simplify matters if we were more chary of conferring subspecific rank on some of the forms; thus form "a" may have two females identical with two females of form "b," but the other three females of form "a" may differ slightly but constantly from the corresponding three females of form "b." Because of the first two similar females we might deny form "b" subspecific separation from form "a," and thus reduce that huge catalogue of names.

However, since the present paper concerns Borneo only, I refrain from introducing any drastic change, and merely follow Fruhstorfer in recognizing our subspecies with its own little coterie of females.

232. *C. HARMODIUS* Feld. *infernus* Rothsch.
Borneo (Mahakkam) ; Java, Sumatra, Palawan.
233. *C. POLYXENA* Cr. *repetitus* Butl.
Borneo, Malay Peninsula, Natunas, Banka, Billiton,
Sumatra ; Java, Palawan, India, China.
234. *C. BORNEENSIS* Butl.
Neomalaya (Borneo, Malay Peninsula, Sumatra).
235. *C. DURNFORDI* Dist. *everetti* Rothsch.
North Borneo and Sarawak ; Malay Peninsula,
Burma, Sumatra, Java.
- C. FABIVS* Fab. *echo* Butl.
Neomalaya (Borneo, Malay Peninsula, Sumatra) ;
Philippines, Celebes, Burma, India, Ceylon.
237. *EULEPIS DELPHIS* Doubl. *concha* Voll.
Borneo, Burma, Malay Peninsula, Sumatra ; Assam,
Java, Palawan.
238. *E. JALYSUS* Feld.
Borneo, Burma, Malay Peninsula, Sumatra.
239. *E. ATHAMAS* Drury *uræus* Rothsch.
Borneo, Sumatra, Natunas ; India, Burma, Malay
Peninsula, South China, Philippines, Palawan,
Java, Timor.
240. *E. MOORI* Dist. *heracles* Rob.
Borneo ; Assam and Burma to Sumatra and Java.
241. *E. HEBE* Butl. *ganymedes* Staud.
Borneo ; Malay Peninsula, Sumatra, Java and the
Lesser Sunda Isles.
242. *E. SCHREIBER* Godt. *malayicus* Rothsch.
Borneo, Malay Peninsula, Sumatra, Banka, Billiton ;
Java, Nias, Philippines, Burma, India.

KEYS TO IDENTIFICATION.

*Key to the Families of Bornean Rhopalocera.**

- a.* Antennæ close together at origin ; tibiæ of hind pair of legs with one terminal pair of spurs only.
- b.* Front legs much reduced in both sexes ; male fore tarsi usually one jointed, female five jointed, but without claws . . . I. NYMPHALIDÆ.
- b*¹. Fore tarsi of male imperfect, of female perfect.
- c.* Hind wing : precostal nervure present
II. LIBYTHÆIDÆ.
- c*¹. Hind wing : without precostal nervure
III. LYCÆNIDÆ.
- b*². Fore tarsi perfect in both sexes IV. PAPILIONIDÆ.
- a*¹. Antennæ wide apart at origin ; tibiæ of hind pair of legs with two pairs of spurs V. HESPERIDÆ.

Fam. I. NYMPHALIDÆ.

Key to the Subfamilies of Bornean Nymphalidæ.

- a.* Fore wing : submedian nervure forked at base.
Palpi short and slender . . . 1. DANAINÆ.
- a*¹. Fore wing : submedian nervure not forked at base ; palpi strongly compressed.
- b.* Cell of both wings closed. Fore wing : one or more veins at base swollen.
- c.* Hind wing : no prediscoidal cell . 2. SATYRINÆ.
- c*¹. Hind wing : with prediscoidal cell 3. ELYMNIINÆ.
- b*¹. Cell of hind wing open or closed with slender veinlet only. Fore wing : veins at base very rarely swollen.
- c.* Palpi small, narrow, pointed.
- d.* Fore wing : middle discocellular present
4. AMATHUSINÆ.
- d*¹. Fore wing : middle discocellular absent
5. DISCOPHORINÆ.
- c*¹. Palpi large, broad, blunt or rounded in front
6. NYMPHALINÆ.

* This key and the key to the Nymphalid subfamilies are based on those of Aurivillius (*Rhopalocera Æthiopica*), Trimen (*South African Butterflies*), Eltringham (*African Mimetic Butterflies*), Bingham (*Fauna of British India*), and Seitz (*Macro-Lepidoptera of the World*).

Subfam. 1. DANAINÆ.

Key to the Genera of Bornean Danainæ.

- a.* Wings usually with hyaline ground-colour, spots and stripes, or fore wings fulvous brown or white with dark fuscous stripes; wings never glossed with blue.
- b.* General pattern of large black spots on whitish ground-colour.
- c.* Large black spot near centre of cell in both wings. Exp. al. 147-180 mm. *Hestia.*
- c*¹. No black spot near centre of cell. Exp. al. 88-112 mm. *Ideopsis.*
- b*¹. General pattern of white lines and spots on dark fuscous ground-colour, or with partially fulvous brown fore wing, or with partially yellow hind wing *Danaida.*
- a*¹. Wings dark fuscous brown, slightly spotted with white or glossed with purplish blue; never with hyaline spots or stripes *Euplœa.*

Genus 1. HESTIA, Hübn.

- a.* Wings elongate and weak; hind wing with three irregular dark spots in space between costa and subcostal (subgen. *Hestia*).
- b.* Spots comparatively small, ground-colour grey white; small basal spot below median nervure on hind wing above obsolete or barely visible below fuscous line on submedian fold . . . 1. *virgo.*
- b*¹. Spots larger, ground-colour more smoky; spot on submedian fold larger and divided by fuscous line 2. *fumata.*
- a*¹. Wings rounded and stronger, hind wing with two irregular spots in costal interspace (subgen. *Nectaria*).
- b.* Hind marginal row of alternately large and small black spots.
- c.* Black spots small 3. *hypermnestra.*
- c*¹. Black spots larger 4. *arbela.*
- b*¹. Hind marginal row of white spots 5. *chersonesia.*

Genus 2. IDEOPSIS, Horstf.

- Wings smoky vitreous with large black spots. Margins of both wings touched with white spots, more noticeable in the female 6. *daos.*

Genus 3. DANAIDA, Latr.

The subgenera may be distinguished for the most part by the sexual scent patches of the males thus:—

- a.* Males without scent patch on hind wing (7, 8) *Radena*.
- a*¹. Males with scent patches on hind wing.
 - b.* Two patches at anal angle, on first median nervule and submedian nervure.
 - c.* Below, the submedian nervure noticeably dilated (9, 10) *Chittira*.
 - c*¹. Submedian nervure not noticeably dilated.
 - d.* Base of hind wing not yellow . . . (11) *Parantica*.
 - d*¹. Base of hind wing canary yellow . . (12) *Ravadeba*.
 - b*¹. One patch only, on under side between first median nervule and submedian nervure.
 - c.* Protruding as a prominent flap (13, 14) *Tirumala*.
 - c*¹. Smaller and less prominent.
 - d.* Middle discocellular of hind wing strongly angled in male (15) *Limnas*.
 - d*¹. Middle discocellular slightly incurved in male (16-19) *Danaida*.

The colour pattern alone is sufficiently distinctive in each species to differentiate them without dividing into subgenera:—

- a.* Fore wing fuscous with blue-white subhyaline streaks and spots.
- b.* Hind wing with white spots in the two angles formed by the bases of median nervules.
- c.* Base of hind wing never yellow.
 - d.* Hind wing: angle between first and second median nervules completely filled in by subhyaline white, and discal region of both wings essentially this colour . . . 7. *kinitis*.
 - d*¹. Hind wing: long white line in median interspace; no spot, except the two pairs forming part of the submarginal border 8. *vulgaris*.
 - d*². Hind wing: short white line followed by small white spot in median interspace, besides the two pairs of the submarginal border.
- e.* Exp. al. 85-110 mm. Whitish spots and lines large and very prominent.
- f.* Two subhyaline bars beyond cell in fore wing equally broad outwardly 9. *crowleyi*.
- f*¹. Both subhyaline bars narrower, the lower one longer and tapering outwards, the upper bar shorter, rarely more than half the length of lower 10. *præmaristatus*.

- e*¹. Exp. al. 65–75 mm. Spots and lines very much reduced. Fuscous ground-colour predominating 11. *eryx*.
- c*¹. Base of hind wing canary yellow 12. *shelfordi*.
- b*¹. Two basal angles, formed by the median nervules in hind wing, delineated by fine whitish lines.
- c*. Subhyaline spots and lines whitish and large 13. *kuchingana*.
- c*¹. Subhyaline spots and lines bluish and much reduced 14. *microsticta*.
- a*¹. Fore wing fulvous brown or white, never subhyaline.
- b*. Both wings fulvous brown.
- c*. Hind wing; veins not prominent; but three or four dark discal spots present 15. *chrysippus*.
- c*¹. Hind wing; veins heavily lined with dark fuscous scales; no discal spots, except sexual mark in male 16. *intensa*.
- b*¹. Fore wing fulvous brown, hind wing white, neuration lined with dark fuscous scales 17. *hegesippus*.
- b*². Both wings white, heavily shaded with dark fuscous, especially the neuration.
- c*. Beneath, veins heavily marked with fuscous scales; fuscous colouring more developed 18. *lotis*.
- c*¹. Beneath, veins lightly marked; white colouring more developed 19. *mezentius*.

Genus 4. EUPLŒA, Fab.

As in the genus *Danaida*, the species of *Euplœa* may be grouped into subgenera on the character of the scent patches of the male :—

- a*. Without pale patch of specialized scales in the costal region of the hind wing of the male.
- b*. Without sexual brand on fore wing (20–23) *Menama*.
- b*¹. With one well-defined sexual brand between median and internal nervures of fore wing in male (24–26) *Craestia*.
- b*². With two well-defined sexual brands between median and internal nervures of fore wing in male (27) *Stictoplœa*
- a*¹. With pale patch of specialized scales in the costal region of the hind wing in male.
- b*. Patch quite small and placed in cell of hind wing below origin of first subcostal nervule. Fore wings pointed (28) *Trepsichrois*.

- b*¹. Patch large, covering half or more than half the upper portion of cell in hind wing.
- c*. Fore wing without sexual spot below first median nervule beneath.
- d*. Fore wing rounded. Exp. al. 65–70 mm.
(29, 30) *Calliplæa*.
- d*¹. Fore wing more pointed. Exp. al. 105–110 mm. (31) *Macrop læa*.
- c*¹. Fore wing with small patch of specialized scales below first median nervule (32–35) *Salpinx*.

Key to the Bornean Species of Euplæa.

- a*. Fore wing without prominent white patch in end of cell, which is usually uniform fuscous or more rarely with one small white spot.
- b*. Fore wing fuscous, with or without white apical spots, or fuscous glossed with blue. If unglossed and with white apical spots, the second spot smaller than first and third, and the male without sexual mark in fore wing.
- c*. Wings dark fuscous, without noticeable blue gloss.
- d*. Fore wings with white apical spots.
- e*. Submarginal spots in fore wing absent or much smaller than apical spots.
- f*. First three apical spots not greatly differing in size. Exp. al. 70–80 mm.
Males dull fuscous brown 20. *brookei*.
- f*¹. Second apical spot very small, third very large. Exp. al. 85–90 mm.
Males dark velvety fuscous black 21. *crameri*.
- e*¹. Submarginal spots in fore wing same size as apical spots. Exp. al. 95–110 mm.
22. *scudderi*.
- e*². Submarginal spots in fore wing absent; three wedge-shaped white subapical spots in fore wing 23. *lorzæ*.
- d*¹. Fore wings without white apical spots.
- e*. Males with narrow sexual brand in fore wing less than 12 mm. long. Females with whitish internervular postdiscal stripes in hind wing.
- f*. Males with indistinct traces (often absent altogether) of submarginal stripes 24. *uniformis*.
- f*¹. Males with complete row of distinct submarginal striæ 25. *masina*.

- e*¹. Males with broader sexual brand, measuring over 16 mm. long. Females without internervular stripes in hind wing 26. *zonata*.
- c*¹. Wings with distinct blue or purple gloss.
- d*. Fore wing above without bluish patch below first median nervule.
- e*. Fore wing above without trace of small costal spot above end of cell. Hind wing cell in both sexes uniform fuscous. Male with two long sexual brands on fore wing above, between first median nervule and the submedian nervure 27. *tyrianthina*.
- e*¹. Fore wing above usually with small costal spot above the end of cell. Hind wing of males with upper portion whitish; fore wing of males without two long sexual brands between first median nervule and the submedian nervure.
- f*. Female hind wing with white internervular stripes. Male fore wing pointed and strongly glossed with steel-blue; a spot in the end of cell 28. *portia*.
- f*¹. Female hind wing without white internervular stripes.
- g*. Fore wings rounded; size small; male without spot in end of cell.
- h*. Without conspicuous double row of submarginal spots 29. *adyte*.
- h*¹. Darker and more glossy blue above and beneath, with pronounced double row of white submarginal spots 30. *cabeira*.
- g*¹. Fore wings more pointed; size large. Male with velvety purple gloss, and spot in end of cell of fore wing below, barely visible above 31. *butleri*.
- d*¹. Fore wing above with light blue patch below first median nervule 32. *syra*.
- b*¹. Both wings dark fuscous, never glossed with blue. Five white apical spots in fore wing, second larger than first, third larger than second. The male with sexual mark below first median nervule 33. *egyptus*.

- c. Hind wing beneath with uniform fuscous internervular areas 34. *ælia*.
- c¹. Hind wing beneath with light internervular streaks.
- a¹. Fore wing with prominent white patch in end of cell of both sexes 35. *lowi*.

Subfam. 2. SATYRINÆ.

*Key to the Genera of Bornean Satyrinæ.**

- a. Fore wing nervures (costal, or both costal and median) swollen at base.
- b. Hind wing cell normal.
- c. Fore wing: costal nervure swollen at base, median noticeably less than the costal or not at all.
- d. Outer margin of hind wing rounded *Ypthima*.
- d¹. Outer margin of hind wing dentate, angulate or caudate.
- e. Fore wing cell about two-thirds the length of fore wing *Erites*.
- e¹. Fore wing cell about half the length of fore wing or less.
- f. Apex of hind wing cell at origin of second median nervule.
- g. Eyes hairy; size moderate; wings angulate and dentate *Lethe*.
- g¹. Eyes naked.
- h. Size large; hind wing caudate *Neorina*.
- h¹. Size moderate; hind wing angulate *Cœlites*.
- f¹. Apex of hind wing cell well beyond the origin of second median nervule *Orsotriæna*.
- c¹. Fore wing: costal and median nervures swollen at base *Mycalesis*.
- b¹. Hind wing cell abnormal: in male very short and acute, the lower discocellular nervule originating from subcostal near base of wing; in the female the cell is closed by one long oblique discocellular *Ragadia*.
- a¹. Fore wing nervures not swollen at base *Melanitis*.

* Fruhstorfer and others include *Elymnias* in this subfamily. I follow Shelford in keeping it in a distinct subfamily.

Genus 5. YPTHIMA, Hübn.

- a.* With eye spots above and below.
- b.* Under side of hind wing with even submarginal row of six spots, the anal spot double 36. *fasciata.*
- b*¹. Under side of hind wing with discontinuous row of submarginal spots.
- c.* Hind wing beneath with five internervular spots, the anal spot double, giving the appearance of six spots altogether arranged in three pairs. No spot in space above third median nervule 37. *selinutius.*
- c*¹. Hind wing beneath with three internervular spots 38. *pandocus.*
- a*¹. Without eye spots above or below 39. *abnormis.*

Genus 6. ERITES, Westw.

- a.* With large anal ocellus on fore wing above 40. *argentina.*
- a*¹. Without anal ocellus on fore wing above.
- b.* Outer half of hind wing beneath with two yellow bands, the first median and bent, the second marginal and bearing five eye spots. Ground-colour light ashy 41. *elegans.*
- b*¹. Outer half of hind wing beneath dull yellow, bearing four hind marginal eye spots. Ground-colour at base of wing fuscous ashy 42. *thetis.*

Genus 7. LETHE, Hübn.

- a.* Fore wing of males above without yellow marginal spots; fore wing of females above with white subapical band or unbanded.*
- b.* Under side: marginal border of large diffuse conterminous spots 43. *europa.*
- b*¹. Under side: marginal border of neat internervular ocelli, in the fore wing especially small and well separated.
- c.* Without steel-blue longitudinal bands on fore wing below.
- d.* Hind wing beneath with median line very slightly excurved below subapical ocellus 44. *mekara.*
- d*¹. Hind wing beneath with median line conspicuously excurved below subapical ocellus.
- e.* Also excurved above subapical ocellus 45. *delila.*

* The female of *delila* is described as having a broad clay yellow oblique band on the fore wing above.

- e*¹. Not excurved above subapical ocellus 46. *dora*.
- c*¹. With steel-blue longitudinal bands on light grey-brown ground-colour of fore wing below 47. *perimede*.
- a*¹. Fore wing of males above with yellow marginal spots; fore wing of females above with yellow subapical band 48. *borneensis*.

Genus 8. NEORINA, Westw.

Dark fuscous above, relieved by large pale yellow patch at apex of hind wing, and on the inner margin of fore wing near the anal angle. Four submarginal white spots on fore wing, and inconspicuous dark ocellus near apex. 49. *lowi*.

Genus 9. CÆLITES, Boisd.

- a*. Blue-violet iridescence covering the greater portion of both wings above 50. *epiminthia*.
- a*¹. Fuscous brown above, except for bright blue-violet iridescence covering anal portion of hind wing 51. *euptychioides*.

Genus 10. ORSOTRIÆNA, Wallengr.

Uniform fuscous above; beneath relieved by white postdiscal line and series of five eye spots 52. *medus*.

Genus 11. MYCALESIS, Hübn.

- a*. Both wings above orange-fulvous, margined with dark fuscous.
- b*. Ocellus above first median nervule in fore wing enclosed in broad fuscous marginal border. Exp. al. 47–52 mm. 53. *pitana*.
- b*¹. Ocellus not enclosed by narrow fuscous marginal border, which widens again over apex. Exp. al. 37–42 mm. 54. *anapita*.
- a*¹. Both wings fuscous above, or dull fulvous-brown or dull purple, without well-marked fuscous borders.
- b*. Exp. al. 50–65 mm. Colouring above fulvous-brown.
- c*. Dull fulvous-brown above. Hind wing beneath with distal row of small eye spots, all about the same size 55. *mnasicles*.

- c*¹. Rich fulvous-brown above. Hind wing beneath with more prominent row of eye spots, in which the first and fifth are always larger than the others.
- d*. Reddish brown below, with two narrow red-brown bands across both wings (the basal band in fore wing of males is obsolete) 56. *amœna*.
- d*¹. Dark fuscous brown below, one broad dark median band across both wings, rather lighter in centre of band 57. *rampaiana*.
- b*¹. Exp. al. 40–50 mm. Colouring above dark fuscous or dull purple.
- c*. Under side crossed by whitish median line, dull in males, brighter in females.
- d*. Marginal ocelli beneath small and of equal size. Male with two separated scent-tufts on hind wing above 58. *baluna*.
- d*¹. Marginal ocelli beneath unequal, the second and third on hind wing always smaller than first and fourth.
- e*. Male with very small black brown sexual mark on submedian nervure of fore wing beneath,* androconial patch on costa of hind wing above without pale yellowish extension distally 59. *cephæus*.
- e*¹. Male with conspicuous oval black-brown sexual mark. Androconial patch with pale yellowish club-like extension distally 60. *hermana*
- c*¹. Under side crossed by one or two bands, but without a white line.
- d*. Fore wing beneath with less than five ocelli. Males not purple above, and hind wing without large sexual patch.
- e*. Under side dark grey-brown with deep red-brown bands. Fore wing with three ocelli (two apical and one subanal) 61. *kina*.
- e*¹. Under side with broad violet median band on red-brown ground-colour. Fore wing with two ocelli 62. *thyateria*.
- e*². Under side reddish-yellow with two narrow red-brown bands. Fore wing with four ocelli (three apical—the first sometimes obsolescent—and one subanal) 63. *adustata*.

* This and the next species are very like one another, so much so that it seems impossible to find any characters sufficiently constant to separate the females; the males, however, can be distinguished by the sexual marks.

- d*¹. Fore wing beneath with five ocelli. Male above purple, and hind wing above with large blackish sexual patch . . . 64. *orseis*.
*c*². Underside not banded. Upper side of male rich velvety brown-black with touch of purple iridescence. Female above dull brown fuscous, relieved by large yellow subapical patch in fore wing . . . 65. *maianeas*.
*c*³. Under side crossed by three bands . . . 66. *excelsior*.

Genus 12. RAGADIA, Westw.

- a*. Ground-colour above and below creamy white. Hind wing with three brown bands beneath, two showing through above; the outer band enclosing the submarginal row of ocelli . . . 67. *annulata*.
*a*¹. Ground-colour above light fuscous, below fulvous white. Hind wing with three brown bands beneath and showing through above; the outer band within and clear of the submarginal row of silvery ocelli . . . 68. *crisia*.

Genus 13. MELANITIS, Fab.

- a*. Black apical ocellus, usually with two white pupils, on fore wing above. General colouring grey-brown fuscous . . . 69. *ismene*.*
*a*¹. Black apical ocellus replaced by orange subapical band. General colouring red-brown fuscous . . . 70. *rufinus*.

Subfam. 3. ELYMNIINÆ.

The only genus in this subfamily is placed by many authors in the last subfamily (Satyrinæ).

* The following forms of this species are found in Borneo :—

- a*. Under side with eye spots (wet season) . . . f. *determinata*.
*a*¹. Under side without eye spots (dry season).
b. Apical ocellus on fore wing above with slight touch of orange-red border (typical form) . . . f. *ismene*.
*b*¹. Apical ocellus approached by broad orange-red patch (aberration) . . . ab. *mycena*.

Shelford has shown that so-called wet and dry season forms occur together in Borneo on the same day and locality.

Genus 14. ELYMNIAS, Hübn.

- a. Hind margins strongly dentate, especially in the hind wing.
- b. Hind wing margin with three more or less prominent tooth-like projections.
- c. Under surface mottled; fore wing without marginal spots.
- d. No trace of blue on upper side. General colouring brown fuscous with narrow whitish marginal border, often obsolescent in one or both wings 71. *labuana*.
- d¹. A bluish gloss on fore wing above.
- e. A broad postdiscal white band, faintly tinged with violet in the female, more noticeably in the male, across hind wing above 72. *dara*.
- e¹. Without postdiscal band across hind wing.
- f. General colouring above dark fuscous with submarginal border of bluish spots on fore wing 73. *nigrescens*.
- f¹. General pattern above striped green or blue on dark brown fuscous.
- g. Upper side of fore wing in male with one small stripe in space beyond cell above third median nervule. Hind wing of female above with brown stripes broader than the whitish stripes 74. *hypereides*.
- g¹. Upper side of fore wing in male with two long stripes beyond cell. Hind wing of female above with whitish stripes broader than the brown 75. *califrons*.
- c¹. Under surface ground-colour uniform brown. Fore wing above and below with series of small yellowish white submarginal spots, repeated on a larger scale on hind wing 76. *pellucida*.
- b. Hind wing with distinct tail-like projection from third median nervule.
- c¹. Without white spots beyond cell, or in cell of either wing. Both wings with pale greenish-white submarginal border, clearer across apex of fore wing 77. *brookei*.
- c¹. Wings without submarginal border. A white patch beyond cell in fore wing, another near base of hind wing, male unknown 78. *smithi*.

- a*¹. Hind margins very slightly dentate. Fore wing long and pointed or short and broad.
- b*. Fore wing long and pointed. Male above glossy violet blue. Female dull violet or bluish with or without white discal patches . 79. *konga*.*
- b*¹. Fore wing short and very broad. Male above blackish, margined with light blue green. Female mimics the Pierine genus *Delias*.
- c*. Red basal spot on hind wing below . 80. *borneensis*.
- c*¹. No red basal spot 81. *tæniola*.

Subfam. 4. AMATHUSIINÆ.

- a*. Fore wing: five subcostal nervules free and well separate, with the exception of the first, which runs close to the costal in *Amathusia*. Size moderate, exp. al. 55-115 mm.
- b*. Hind wing cell without membranal fold at end.
- c*. Colouring above ochreous or chestnut brown. No ocelli on hind wing above.
- d*. Cell of hind wing open *Faunis*.
- d*¹. Cell of hind wing closed *Xanthotænia*.
- c*¹. Colouring semi-transparent grey fuscous. Two large ocelli on each hind wing *Tænaris*.
- b*¹. Hind wing cell apparently closed by transverse fold in the wing membrane *Amathusia*.
- a*¹. Fore wing: first subcostal nervule anastomosed with costal nervule.
- b*. Apex of fore wing pointed.
- c*. Third median nervule without spur *Amathuxidia*.
- c*¹. Third median nervule with upwardly directed spur *Zeuxidia*.
- b*¹. Apex of fore wing rounded *Thaumantis*.
- a*². Fore wing: five subcostal nervules free, but first and second subcostal nervules run very close to the costal nervule. Size very large and square. Exp. al. 110-150 mm. *Thauria*.

* The four forms of this species may be differentiated thus:—

- a*. Dark glossy blue above ♂ f. *konga*.
- a*. Not dark glossy blue above.
- b*. Uniform dull purplish dove-colour above ♀ f. *konga*.
- b*¹. With white apical band in fore wing.
- c*. Disc of both wings above not white ♀ f. *trepichroides*.
- c*¹. Disc of both wings white ♀ f. *ptychandrina*.

Genus 15. FAUNIS, Hübn.

- a.* Underside: without ocelli on either wing.
- b.* Fore wing somewhat rounded. Upper side light ochre yellow 82. *borneensis.*
- b.* Fore wing quadrate. Upper side ochreous reddish-brown 83. *kirata.*
- a*¹. Under side: with two ocelli on hind wing.
- b.* Fore wing below crossed by two median lines 84. *gracilis.*
- b*¹. Fore wing below without two median lines (occasionally a basal line only visible).
- c.* Fore wing below with conspicuous narrow white band across apex 85. *stomphax.*
- c*¹. Fore wing below without white apical band.
- d.* Hind wing below: two transverse lines across discal region parallel, the outer not reaching costal ocellus. Hind wing subquadrate 86. *barrauti.*
- d*¹. Hind wing below: two transverse lines across discal region closer together towards inner margin and diverging towards costa so that the outer line touches costal ocellus. Hind wing more rounded 87. *besa.*

Genus 16. XANTHOTÆNIA, Westw.

- Rich chestnut-brown above, relieved in fore wing by bright yellow band across apex, and a small pale yellow or white apical spot 88. *burra.*

Genus 17. TÆNARIS, Hübn.

- Fore wing uniform semi-transparent grey fuscous. Hind wing with large black anal ocellus and smaller one on costa, each broadly margined with yellow. Anal region of hind wing white 89. *occulta.*

Genus 18. AMATHUSIA, Fab.

- a.* Male without androconial cavity on hind wing.
- b.* Longitudinal streaks below whitish or pale violet.
- c.* Median band below not indented, or but slightly so on hind wing; narrower than postmedian band 90. *dilutus.*
- c*¹. Median band below, broad, velvety-brown and deeply indented.
- d.* Male hair tufts on the hind wing blackish 91. *borneensis.*

- d*¹. Male hair tufts light brown; hind wings shorter; size smaller 92. *gabriela*.
*b*¹. Longitudinal streaks below yellow 93. *staudingeri*.
*a*¹. Male with androconial cavity producing a small cup-like excrescence on the under side of hind wing below costal nervure. White median band prominent 94. *masina*.

Genus 19. AMATHUXIDIA, Staud.

- a*. Dark fuscous above, relieved by broad subapical band, violet-blue in the male, dull orange-yellow in the female 95. *ottomana*.
*a*¹. Size small; male subapical band abbreviated posteriorly; female with "a very narrow ochre-yellow scarf."* 96. *octacilia*.

Genus 20. ZEUXIDIA, Hübn.

- a*. Blue band on fore wing of male above, not touching cell; markings on female above yellowish or pale violet.
b. Hind wing of male above with blue anal patch; hind wing of female above with fulvous apical and marginal spots 97. *wallacei*.
*b*¹. Hind wing of male above with even blue marginal border from costa to anal angle; female markings above pale violet 98. *doubledayi*.
*a*¹. Blue band on fore wing of male above extending over upper half of cell; female above with white markings untouched with yellow or pale violet 99. *aureliana*.

Genus 21. THAUMANTIS, Hübn.

- a*. Fore wing above without blue subapical band.
b. Fore wing of male bright iridescent blue above. Fore wing of female with blue iridescence from base to well beyond cell. Centre of anal ocellus of hind wing below blackish 100. *lucipor*.
*b*¹. Fore wing of male dark fuscous, slightly glossed with blue; hind margin of both wings dull fulvous. Fore wing of female with blue iridescence not reaching end of cell. Centre of anal ocellus of hind wing below brown like ground-colour 101. *noureddin*.
*a*¹. Fore wing above with blue subapical band 102. *cyclops*.†

* I quote Fruhstorfer's description, not having seen this subspecies.

† An aberration without the apical ocelli on hind wing is called *depupillata* Fruhst.

Genus 22. THAURIA, Moore.

Size very large. Fore wing above: broad cream
white band from costa to anal angle. Hind wing:
broad orange fulvous anal patch . . . 103. *aliris*.

Subfam. 5. DISCOPHORINÆ.

- a.* Fore wing: five subcostal nervules present;
males with conspicuous androconial patch on
hind wing above *Discophora*.
*a*¹. Fore wing: four subcostal nervules present;
males with androconial patch replaced by tuft of
long hairs, covering cell of hind wing *Enispe*.

Genus 23. DISCOPHORA, Boisd.

- a.* Male without subapical band in fore wing above,
but a row of three (sometimes four) obsolescent
pale blue spots present beyond cell. Female
with pale violet spots on fore wing above . 104. *sym-*
phronia.*
*a*¹. Male fore wing above with pale blue subapical
band.
b. Band broad and continuous (female unknown)
105. *amethystina*.
*b*¹. Subapical band of male narrow and composed
of cuneiform spots more or less fused distally.
Female with broad orange subapical band.
c. Spots on fore wing of male moderate;
below costa on hind wing of female well
developed 106. *cheops*.†
*c*¹. Spots on fore wing of male twice as broad;
below costa on hind wing of female obsole-
scent 107. *helvidius*.

Genus 24. ENISPE, Westw.

Ground-colour of male above brown with ochreous
markings; female paler, with white costal spots
108. *milvus*.

* A male aberration with blue spots of fore wing entirely missing is called *despoliata* Stichel.

† An aberration with three additional ocelli on hind wing below, between the costal and anal ocelli, is called *orbicularia* Stichel.

Subfam. 6. NYMPHALINÆ.

To prepare a key for the identification of the genera of this large subfamily so that they fall into one particular sequence has proved too much for me; I have, therefore, abandoned the attempt, and adopted more or less Bingham's arrangement for the Indian genera. As explained by Fruhstorfer, it is quite impossible to rely on any one character to distinguish Nymphaline genera; any attempt to do so must result in an artificial arrangement; however, as identification is the object of a key, arrangement in sequence (which is still indicated by the numbers in front of the genera) is considered here of secondary importance.

- a. Fore wing: costal nervure greatly inflated at base.
 - b. Males with large dark glandular patch from median nervure to inner margin on under side of fore wing. Colouring above rich ochreous brown 24. *Ergolis*.
 - b¹. Males without glandular patch. Colouring above blue in males, olive fuscous in females 25. *Laringa*.
- a¹. Fore wing: costal nervure not inflated at base.
 - b. Fore wing: costa not serrated.
 - c. Fore wing: fourth subcostal nervule ending on costa well before apex 26. *Cupha*.
 - c¹. Fore wing: fourth subcostal nervule ending at or near apex or on hind margin.
 - d. Cell of hind wing closed.
 - e. Fore wing: second subcostal nervule emitted well beyond apex of cell.
 - f. Fore wing: first subcostal nervule emitted well before apex of cell 27. *Atella*.
 - f¹. Fore wing: first subcostal nervule emitted from apex of cell 28. *Issoria*.
 - e¹. Fore wing: second subcostal nervule emitted from apex of cell or just beyond cell.
 - f. Cell of hind wing closed by membranal fold . . . 29. *Cynthia*.
 - f¹. Cell of hind wing closed by small vein.
 - g. Male with large velvety patches of specialized scales. Hind wing angulate. Colouring above violet . . . 32. *Terinos*.
 - g¹. Male without large sexual patches. Hind wing usually not angulate, but, if angulate, colouring above not violet.
 - h. Hind margin of hind wing strongly dentate . . . 33. *Cethosia*.
 - h¹. Hind margin of hind wing not dentate.
 - i. Fore wing: third median nervule not strongly arched.
 - j. Hind margin of both wings scalloped . . . 35. *Vanessa*.
 - j¹. Hind margin of fore wing not scalloped; not deeply excavate, unless hind wing is tailed.
 - k. Hind wing without prediscoidal cell.
 - l. Fore wing not elongate.
 - m. Hind wing without tail from second median nervule.

- n.* Hind wing with tail from submedian nervure 40. *Kallima*.
*n*¹. Hind wing not tailed.
o. Under side with prominent eye spots 41. *Amnosia*.
*o*¹. Under side without eye spots.
p. Fore wing: second subcostal nervule from apex of cell or just before 38. *Hypolimnas*.
*p*¹. Fore wing: second subcostal nervule from beyond cell 42. *Stibochiana*.
*m*¹. Hind wing tailed and lobed (both almost obsolete in *Chersonesia*).
n. Fore wing: fifth subcostal ends below apex on hind margin 43. *Cyrestis*.
*n*¹. Fore wing: fifth subcostal ends at apex 44. *Chersonesia*.
*l*¹. Fore wing elongated with apex broadly produced; outer margin emarginate 50. *Lebadea*.
*k*¹. Hind wing with predorsal cell 51. *Parthenos*.
*j*². Fore wing: hind margin deeply excavate, with apex broadly rounded; hind wing not tailed 53. *Euthalia* (part)*.
*i*¹. Fore wing: third median nervule strongly arched 54. *Dicchorragia*.
*d*¹. Cell of hind wing open.
e. Cell of fore wing closed.
f. Fore wing: second subcostal nervule emitted at or just before apex of cell.
g. Ground-colour above fuscous banded with yellow. Male with sex marks on radial nervules in fore wing, and on subcostal nervules in hind wing 30. *Ducapa*.†
*g*¹. Ground-colour above orange fulvous. Males without sex marks 31. *Cirrochroa*.
*f*¹. Fore wing: second subcostal emitted well before apex of cell.
g. Hind wing with distinct tooth-like projection at third median nervule 36. *Symbrenthia*.
*g*¹. Hind wing with distinct tooth-like projection at radial nervule 37. *Rhinopalpa*.
*g*². Hind wing without tooth-like projections or tails.
h. Hind wing above: complete white or yellow band from costa to base, and across abdomen 47. *Pantoporia*.‡

* The subgenus *Dophla* only (species nos. 218–220).

† A rudimentary discocellular can be seen with a glass, closing the cell of hind wing in this genus. The sex marks in the males, however, render it easy to recognize.

‡ Cell of fore wing in the *Athyma* group of this genus (species nos. 173, 174) is open or only closed by very fine discocellular.

- h*¹. Hind wing above: whitish or yellow band from costa towards anal angle; not across abdomen.
i. Fore wing: end of second subcostal nervule before origin of fourth 48. *Limenitis*.
*i*¹. Fore wing: end of second subcostal nervule beyond origin of fourth 49. *Pandita*.
*h*². Hind wing above: band of yellow spots from costa to base and across abdomen, or with blue marginal band from apex to anal angle 53. *Euthalia* (part).*
*g*³. Hind wing with broad tail between second and third median nervules 59. *Prothoe*.
*e*¹. Cell of fore wing open.
f. Femora more or less unicolorous.
g. Club of antennæ usually short, broad and flat, not long, narrow or cylindrical.
h. Under side with submarginal eye spots.
i. Hind wing: inner margin excavate before anal angle; without tail 34. *Precis*.
*i*¹. Hind wing: inner margin excavate before anal angle; prominent lobate tail from submedian nervure 39. *Dolichallia*.
*h*¹. Under side without submarginal eye spots.
i. Fore wing: second subcostal nervule emitted well beyond cell 45. *Rahinda*.
*i*¹. Fore wing: second subcostal nervule emitted just before end of cell 46. *Neptis*.
*i*². Fore wing: second subcostal nervule emitted well before end of cell.
j. Terminal segment of palpi at right angles to middle segment 52. *Tanaccia*.
*j*¹. Terminal segment of palpi long and straight 53. *Euthalia* (part).†
*g*¹. Club of antennæ long, narrow and cylindrical.
h. Hind wing: precostal strongly curved, so that the distal half runs parallel to the costal nervure.
i. Fore wing short, not falcate 55. *Apatura*.
*i*¹. Fore wing long, subfalcate 56. *Eulaceura*.
*h*¹. Hind wing: precostal vertical 57. *Herona*.
*f*¹. Femora beneath pure white, in sharp contrast to black above 58. *Euripus*.
*b*¹. Fore wing: costa serrated.
c. Cell of both wings closed 60. *Charaxes*.
*c*¹. Cell of fore wing closed, hind wing open 61. *Eulepis*.

* The subgenus *Adolias* only (species nos. 221-223).† The subgenera *Cynitia* and *Euthalia* (species nos. 201-217).

Genus 25. ERGOLIS, Boisd.

- a.* Fore wing with small white preapical spot 109. *ariadne*.
- a*¹. Fore wing without white preapical spot.
- b.* Under side of fore wing in male with one androconial streak 110. *specularia*.
- b*¹. Under side of fore wing in male with androconial streaks on all veins 111. *isæus*.

Genus 26. LARINGA, Moore.

- Male uniform ultramarine-blue above; female grey brown, with paler median band in fore wing interrupted beyond cell 112. *castelnaui*.

Genus 27. CUPHA, Bilb.

- a.* Yellow subapical band of fore wing angled at apex of cell 113. *lotis*.
- a*¹. Yellow subapical band of fore wing broader, straighter, and not angled at apex of cell 114. *cacina*.*

Genus 28. ATELLA, Doublé.

- Ochreous brown above with delicate fuscous fritillary-like markings. Exp. al. 40-46 mm. 115. *alcippoides*.

Genus 29. ISSORIA, Hübn.

- Rich ochreous brown above; fore wing with blackish markings on costa and at apex. Hind wing usually dusted with black above, pale grey-green below 116. *macro-malayana*.

Genus 30. CYNTHIA, Fab.

- Male orange-brown above, with dark costal and marginal markings on fore wing, two ocelli on hind wing. Female: basal half grey-green, succeeded by white median band, and marginal border of grey fuscous in fore wing, ochreous in hind wing 117. *erotella*.†

* A dry-season form from Mantanani is called *pseudarias* Fruhst. It may be distinguished from typical *cacina* by the paler colour above, and the transverse bands of the fore wings being distally whitish.

† Fruhstorfer recognizes a tableland form of female as *dejakorum* with reduced white discal band, and a mountain form from Kinabalu as *montana*, characterized by darker green base of wing and richly striped under side. Both forms and intermediates occur in Sarawak, apparently regardless of altitude or season. The males vary in size from 68-88 mm.; a Kuching male taken in March measures 68 mm., another taken in February 85 mm. Similarly, of two females from the same district, one taken in April measures 84 mm., the other 101 mm. The interruption of band beyond cell is variable, perhaps most pronounced in two females from Mts. Matang and Kinabalu.

Genus 31. CIRROCHROA, Doublé.

- a.* Fore wing without subapical band.
- b.* Basal half of wings above red-brown, or slightly dusted with fuscous scales, and edged distally by very irregular dark line.
- c.* Fore wing above: fuscous marginal border light, and invaded by traces of orange-brown from anal angle nearly to apex . . . 119. *thilina*.
- c*¹. Fore wing above: dark fuscous marginal border, in which the apical half has no trace of a line of orange-brown ground-colour.
- d.* Small spot at apex of fore wing above; median line on hind wing below strongly constricted at cell 120. *ravana*.
- d*¹. No spot at apex of fore wing above; median line on hind wing below hardly constricted at all 121. *calypso*.
- b.* Basal half of wings above uniform fuscous brown, slightly lighter than uniform fuscous marginal borders; not edged distally with dark line 122. *satellita*.
- a*¹. Fore wing: broad subapical band yellow above, white below 123. *orissides*.

Genus 32. TERINOS, Boisd.

- a.* Hind wing rounded, anally violet-orange, and immaculate above. Exp. al. 63–73 mm. . . 124. *terpander*.
- a*¹. Hind wing quadrate and distinctly tailed. Exp. al. 74–80 mm.
- b.* Hind wing above anally orange-violet, with violet lunules 125. *nympha*.
- b*¹. Hind wing above without orange-violet; two large white spots towards anal angle . . 126. *albonotata*.
- b*². Hind wing above anally orange-violet, without violet lunules 127. *fulminans*.

Genus 33. CETHOSIA, Fab.

- a.* Fore wing above: without pale yellow subapical band 128. *sandakana*.
- a*¹. Fore wing above: pale yellow subapical band 129. *hypsea*.

Genus 34. PRECIS, Hübn.

- a.* Fore wing noticeably hooked; an indistinct submarginal row of eye spots barely visible.
- b.* Hind wing above: with dark postmedian band almost concealing row of small eye spots 130. *horsfieldi*.

- b*¹. Hind wing above: conspicuous row of well-developed eye spots 131. *ida*.
- a*¹. Fore wing very slightly hooked; submarginal eye spots prominent.
- b*. General colouring above pale grey; five or six submarginal eye spots on hind wing above 132. *atlites*.
- b*¹. Only two eye spots on hind wing above.
- c*. Orange-brown above, without subapical band in fore wing 133. *javana*.
- c*¹. Hind wing of male blue above, fore wing dark fuscous shaded with blue; female dark fuscous without blue shading; both sexes relieved in fore wing by pale buff subapical band 134. *metion*.

Genus 35. VANESSA, Fab.

- Dark blue above with light blue submarginal band from costa of fore wing to inner margin of hind wing 135. *perakana*.

Genus 36. SYMBRENTHIA, Hübn.

- a*. Colouring beneath red-brown on orange 136. *marius*.
- a*¹. Ground-colour beneath cream-white.
- b*. Fore wing markings principally black below 137. *balunda*.
- b*¹. Fore wing markings principally chocolate-brown below 138. *hippocrene*.

Genus 37. RHINOPALPA, Feld.

- Chestnut brown above with heavy hind marginal border of fuscous black. Beneath, blackish with thin blue lines and hind marginal eye spots 139. *helionice*.*

Genus 38. HYPOLIMNAS, Hübn.

- a*. *Euplaea*-mimic. No white or blue subapical bar in fore wing above; occasionally three small whitish internervular streaks visible beyond cell in fore wing above 140. *anomala*.

* The male and two forms of female may be distinguished thus:—

- a*. Basal portion of fore wing above not noticeably darker than median area ♂ *f. typica*.
- a*¹. Basal portion of fore wing above fuscous brown, in sharp contrast to yellow-brown median area.
- b*. A submarginal row of eye spots on hind wing above, but no spots in median area ♀ *f. typica*.
- b*¹. Median area of hind wing above with eye spots in addition to submarginal row ♀ *f. elema*.

- a*¹. A prominent white or blue subapical bar in fore wing above.
- b*. Males small, with very broad white median band across hind wing below, females tawny fulvous above; exact mimic of *Danaïs chry-sippus* 141. *missippus*.
- b*¹. Males larger, usually with only faint trace of white median band on hind wing below; females fuscous black above, with blue or white bar and marginal spots 142. *bolina*.*

Genus 39. DOLESCHALLIA, Feld.

Shape of wings under side leaf-like; above brown, apical half of fore wing blackish barred with orange-yellow 143. *borneensis*.

* The male forms in the Sarawak Museum may be separated thus:—

- a*. Postdiscal bar on fore wing above, and discal spot on hind wing centrally white ♂ form 1.
- a*¹. Postdiscal bar and discal spot centrally pale blue.
- b*. Submarginal row of whitish spots on hind wing above ♂ form 2.
- b*¹. No submarginal row of whitish spots on hind wing above ♂ form 3.
- a*². Postdiscal bar centrally pale blue, but discal spot of hind wing uniform dark iridescent blue ♂ form 4.

The females may be distinguished by the duller fuscous ground-colour as opposed to the velvety blue-black of the males. The different forms in the Sarawak Museum (N.B.—all from Borneo) may be distinguished thus:—

- a*. Discal portion of hind wing above broadly white; an orange patch near anal angle on fore wing above ♀ form 1.
- a*¹. Discal portion of hind wing above slightly washed with white; no trace of orange on upper side of either wing ♀ form 2.
- a*². No white on discal portion of hind wing above.
- b*. No sign of orange on either wing above.
- c*. A noticeable blue discal patch on hind wing above.
- d*. Fore wing postdiscal bar above more blue than white.
- e*. Hind wing above: submarginal row of white dots scarcely traceable ♀ form 3.
- e*¹. Hind wing above: submarginal row of white dots well-developed and conspicuous ♀ form 4.
- d*¹. Fore wing postdiscal bar above white ♀ form 5.
- c*¹. No blue discal patch on hind wing above ♀ form 6.
- b*¹. A small orange patch near anal angle on fore wing above ♀ form 7.

I do not see that any good is attained by preserving names for all these forms, especially as the above eleven forms are represented by a series of only fifteen specimens. No doubt many more forms requiring distinction could be found, say, in a series of a hundred.

Fruhstorfer recognizes sixty-two names for the different subspecies and forms of *Hypolimnas bolina*, many of which are no doubt well justified, as the species has a very large range, and in many localities no doubt produces constant races.

Genus 40. KALLIMA, Doublé.

Shape of wings and under side leaf-like; above steel-blue with broad orange band from middle of costa to hind margin near anal angle in fore wing 144. *buxtoni*.

Genus 41. AMNOSIA, Westw.

Male fuscous black above, with bright blue band from centre of costa to anal angle in fore wing. Female dull brown, with yellow band in fore wing, reaching hind margin slightly above anal angle. Submarginal border of large eye spots on hind wing below in both sexes 145. *baluana*.

Genus 42. STIBOCHIONA, Butl.

Male rich velvety brown-black above and below; female dull fuscous black with broad macular hind marginal pale violet-pink border in hind wing continued much narrower and immaculate into the fore wing 146. *schœnbergi*.

Genus 43. CYRESTIS, Boisd.

- a.* Ground-colour white.
b. Markings above pale grey 147. *sericeus*.
*b*¹. Black marginal borders and three thin black longitudinal lines across both wings, sharply defined above 148. *nivalis*.
*b*². Heavy black markings above obliterating most of the white ground-colour 149. *seminigra*.
*a*¹. Ground-colour orange-brown, crossed by blackish longitudinal lines 150. *theresæ*.

Genus 44. CHERSONESIA, Dist.

- a.* Fore wing: fourth longitudinal band straight to costa.
b. Ground-colour above orange-yellow 151. *cyanee*.
*b*¹. Ground-colour rich orange-brown, more heavily banded with fuscous black 152. *excellens*.
*a*¹. Fore wing: fourth longitudinal band sinuate.
b. Fore wing: first and second longitudinal bands filled in with orange-brown ground-colour 153. *rahria*.
*b*¹. Fore wing: first and second longitudinal band filled in with fuscous, size small.
c. Fore wing: third longitudinal band not lined 154. *intermedia*.
*c*¹. Fore wing: third longitudinal band lined like first and second 155. *peraka*.

Genus 45. RAHINDA, Moore.

- a. Fore wing pointed: hind marginal line if single narrower than its distal and proximal fuscous borders.
- b. Fore wing: orange hind marginal line single 156. *senthes*.
- b¹. Fore wing: hind marginal line double.
- c. Hind marginal line orange 157. *paraka*.*
- c¹. Hind marginal line grey 158. *dindinga*.
- a¹. Fore wing slightly rounded; orange hind marginal line as broad as its distal and broader than its proximal fuscous borders 159. *aurelia*.

Genus 46. NEPTIS, Fab.

- a. Upper side black and white.
- b. Under side rich ochreous barred and spotted with white 160. *sopatra*.
- b¹. Under side brownish-black or reddish-brown, barred and spotted with white.
- c. Hind wing above: postdiscal series of white spots rounded or conical 161. *plautia*.
- c¹. Hind wing above: postdiscal series of white spots transverse (the two apical spots sometimes excepted).
- d. Subapical and submedian spots on fore wing above with conspicuous white lines distally 162. *duryodana*.
- d¹. Only one broken series of small white lines distal to the subapical and submedian spots in fore wing.
- e. White subbasal line on hind wing above not reaching costa.
- f. Fore wing: subapical and submedian spots normal.
- g. Fore wing: white triangle in apex of cell separated from basal streak 163. *nata*.
- g¹. Fore wing: white triangle practically fused with basal streak 164. *rasilis*.
- f¹. Fore wing: subapical and submedian spots reduced to mere dots 165. *egestas*.
- e¹. Hind wing above: white subbasal line extending to costa 166. *ila*.

* An aberration with yellow patches on fore wing confluent is called ab. *sandaka* Butl.

- a*¹. Upper side orange and black or dark brown barred with lighter brown.
- b*. Fore wing above: orange triangle in apex of cell broad and separated from basal streak . 167. *dorelia*.
- b*¹. Fore wing above: triangle in apex of cell long and narrow, almost completely fused with basal streak.
- c*. Fore wing above: no light spots immediately above cell triangle.
- d*. Dark median band of hind wing above with lighter central line . . . 168. *salpona*.
- d*¹. Dark median band of hind wing above without lighter central line.
- e*. Rich black-brown above, barred with grey-brown . . . 169. *discerna*.
- e*¹. Fuscous brown above, barred with bright orange.
- f*. Hind wing above: two orange bands about one-third the width of intervening fuscous ground-colour; colouring beneath paler . . . 170. *sarachoa*.
- f*¹. Hind wing beneath: two orange bands about one-fifth the width of intervening fuscous ground-colour; bands beneath richer reddish-brown and purple . . . 171. *digitia*.
- c*¹. Fore wing above: two light brown spots immediately above cell triangle . . . 172. *arnoldi*.

Genus 47. PANTOPORIA, Hübn.

- a*. Fore wing above: narrow hind marginal line white, never brown, orange or grey-brown.
- b*. Basal streak in cell of fore wing continuous to apex . . . 173. *pravara*.
- b*¹. Basal streak in cell of fore wing interrupted towards apex.
- c*. White submarginal spots on fore wing beneath dark centred . . . 174. *anaka*.
- c*¹. White submarginal spots on fore wing beneath not dark centred.
- d*. Hind wing above: white discal band well-developed.
- e*. Fore wing above: no white spot of median band between second and third median nervules.
- f*. Exp. al. 75–87 mm.; basal streak of fore wing cell distinctly broken into three, in addition to the well-separated white triangle in apex of cell . 175. *elisa*

- f*¹. Exp. al. 51–60 mm.; basal streak unbroken, but separate from white triangle in apex of cell . . . 176. *kanwa*.
- f*². Exp. al. 53–60 mm.; basal streak broken into three portions, the distal spot distinctly separate, the second barely; the white triangle well separate . . . 177. *kresna*.
- e*¹. Fore wing above: a white spot between second and third median nervules, placed further in than the spot below in the male, further out in the female.
- f*. Fore wing above: small spot above submedian nervure well separate from large spot in internervular space above . . . 178. *matanga*.
- f*¹. Fore wing above: long spot above submedian nervure reaching large spot in internervular space above . . . 179. *amhara*.
- d*¹. Hind wing above: white discal band reduced to two spots . . . 180. *euloca*.
- a*¹. Fore wing above: narrow hind marginal line brown, orange or grey-brown (touched with white in male *matthiola*).
- b*. Basal streak in cell of fore wing absent altogether . . . 181. *ambra*.
- b*¹. Basal streak in cell of fore wing long and partially fused with white triangle at apex . . . 182. *matthiola*.*

Genus 48. LIMENITIS, Fab.

- a*. Band across fore wing pale green, narrow, nearly straight . . . 183. *viridicans*.
- a*¹. Band across fore wing white, broad, curved . . . 184. *agnata*.

* Fruhstorfer separates the Bornean subspecies as *matthiola*, and figures the male and an orange female; the latter may be regarded thus as typical female *matthiola*; while for the grey-brown female, corresponding to *gandara* Feld. in Java, I propose the name *liomattha*.

The male and two females may be recognized thus:—

- a*. Bars above white ♂ f. *typica*.
- a*¹. Bars above orange ♀ f. *typica*.
- a*². Bars above grey-brown ♀ f. *liomattha* Moulton.

Genus 49. PANDITA, Moore.

Orange-brown above with longitudinal fuscous bands
185. *sinoria*.

Genus 50. LEBADEA, Feld.

- a.* Fore wing of male subfalcate. White spot above submedian nervure in fore wing above nearly as wide as spot above it 186. *martha*.
*a*¹. Fore wing of male sinuate. White spot above submedian nervure very narrow 187. *paduca*.

Genus 51. PARTHENOS, Hübn.

Size large (exp. al. 85–100 mm.). Olive-green above, heavily barred and streaked with black; fore wing with postmedian band of large white spots 188. *borneensis*.

Genus 52. TANÆCIA, Butl.

The Bornean species are extremely difficult to separate, as no two authors agree on the constitution of hardly any one species, thus "a" may be a separate *species*, or a *subspecies* of "b," or a form of "c." Breeding experiments alone will settle this. I follow Fruhstorfer's arrangement as far as possible, and the following key is based on the distinctions given by him. They are, however, insufficient for me to identify the specimens in the Sarawak Museum, but since the determination in any case is bound to be doubtful until the species are bred out, perhaps this is of less importance.

- a.* Colouring above dark brown-black with broad white band across both wings 189. *amisa*.
*a*¹. Colouring above grey-brown, relieved in some with violet tinge and black and white sagittate submarginal borders, or in some males fuscous black above with blue hind-marginal borders.
b. Uncus sickle-shaped.
c. Both sexes with white in submarginal border of hind wing above 190. *crowleyi*.
*c*¹. Both sexes: black sagittate spots of submarginal border without pure white edge.
d. Submarginal spots on hind wing pointed
191. *lutala*.

- d*¹. Submarginal spots on hind wing rounded
192. *valmikiis*.*
- b*¹. Uncus straight, sharp-pointed.
- c*. Males grey-brown like the females.
- d*. Upper side dark-grey or black-brown
above without violet suffusion 193. *orphne*.
- d*¹. Upper side with violet-blue suffusion.
- e*. White inner portion of median band
well-developed 194. *munda*.
- e*¹. White inner portion of median band
absent or obsolescent 195. *fruhstorferi*.†
- c*¹. Males dark fuscous, margined with blue,
unlike the females.
- d*. Above marked with white pearl-shaped
spots 196. *clathrata*.
- d*¹. With two or three white dots near the
costa of the hind wing 197. *cærulescens*.
- b*². Uncus snake-shaped at end.
- c*. Colouring above brown without blue mark-
ings 198. *pardalis*.
- c*¹. Male with blue markings; both sexes with
middle row of black spots showing through
as a blue undulate band on the hind wing
above 199. *apsarasa*.
- c*². Deeper brown ground-colour; white mark-
ings of fore wing more sharply defined
200. *subochrea*.†

The above key is very unsatisfactory, but without comparison with types and long series I am unable to make it more useful.

* Two Bornean forms are characterized by Fruhstorfer thus:—

- a*. Posterior portion of the very broad median area of the
hind wings above suffused with a lovely violet-blue . . . *viola* Fruhst.
 - a*¹. Intramedian spots shaded with grey, and on the hind
wings the median band nearly clear white without any
lustre of blue or violet *lutalina* Fruhst.
- The first is described as a new "subspecies," the latter as a new form from South-east Borneo.

The separation of *valmikiis* from *lutala* seems of doubtful merit.

† Different forms of the males and females are separated thus:—

MALES.

- a*. With violet-blue suffusion on hind wing . . . ♂ f. *typica*.
- a*¹. Without violet-blue suffusion on hind wing . . . ♂ f. *salina* Fruhst.

FEMALES.

- a*. Hind wing: narrow band in middle of wing . . . ♀ f. *typica*.
- a*¹. Hind wing: a broadly white proximal area . . . ♀ f. *albifasciata* Butl.
- a*². Hind wing: dark brown on both sides; white
markings nearly confluent ♀ f. *evanescens* Butl.

‡ Fruhstorfer notes a form from North Borneo distinguished by the rounded instead of pointed internervular spots on the upper side of hind wing = *margarita* Butl.

Genus 53. EUTHALIA, Hübn.

The Bornean species come under the following subgenera:—

- a.* Cells of both wings open.
b. Precostal of hind wing straight, bifurcate . . . *Cynitia.*
*b*¹. Precostal curved, single *Euthalia.*
*a*¹. Cell of both wings closed; in the hind wing the discocellular is sometimes barely perceptible . . . *Dophla.*
*a*². Cell of fore wing closed, hind wing open . . . *Adolias.*

Subgen. CYNITIA, Snell.

- a.* Males black, margined with light blue; a light frictional patch on fore wing below. Females with dull hyaline spots on fore wing, no white spotted bands 201. *vacillaria*.*
*a*¹. Males black, margined with light blue; without frictional patch on fore wing below. Females with white spotted postmedian bands, no dull hyaline spots 202. *ambalika*.†

* A female form characterized by a complete light-coloured band on the hind wing is called *arama*, Fruhst.

† The males vary above in the pale blue or violet blue of the marginal border, which also varies in extent: almost absent in fore wing of some specimens, quite narrow or broad to anal angle of fore wing, reaching apex of fore wing in some or not in others. Beneath, the colouring varies from ochreous to rufous or violaceous-brown.

The female forms may be separated thus:—

- a.* White hind marginal spots of fore wing above well-developed ♀ *f. tiara* Fruhst.
*a*¹. White spots of fore wing confluent ♀ *f. trilobita* Fruhst.
*a*². No white spots on fore wing ♀ *f. paramitra* Fruhst.
*a*³. Fore wing with small, well separated white spots beyond cell, and hind wing with broad violet-blue band ♀ *f. magnolia* Staud.
*a*⁴. Fore wing with white postmedian spots well-developed, violet band of hind wing absent or obsolescent ♀ *f. typica*.
*a*⁵. Hind wing with broad violet-blue band; fore wing spots well-developed, but often dusted with brown ♀ *f. diardi* Voll.
*a*⁶. Hind wing with but faint traces of white median spots ♀ *f. martini* Fruhst.

Two more forms are recorded by Fruhstorfer: *gandarva* Voll., which seems to be a transition between the last three, and *colorata* Fruhst., which is a pale-brown form of *martini*. Some Sarawak specimens seem to be rather too dark for this, and, at same time, a little light for *martini*.

Subgen. EUTHALIA, Hübn.

- a. Upper and under side without red spots.
- b. Hind wing under side in both sexes with continuous zigzag submarginal line. Both sexes polymorphic. 203. *bipunctata*.*
- b¹. Hind wing under side in both sexes with submarginal line formed of small internervular spots, with or without traces of zigzag connecting lines. Both sexes nearly always monomorphic.
- c. Hind wing of male not bordered by blue band.
- d. Fore wings slightly subfalcate. General colouring not marbled green.
- e. Males without distinct white spots beyond cell in fore wing. Females without postmedian white band across both wings.
- f. Fore wing beneath white tipped.
- g. Male and female with inconspicuous brown-dusted subhyaline spots beyond cell in fore wing above
204. *sandakana*.

* The male forms may be distinguished thus :—

- a. Upper side dull brown, without white, blue or green marginal bands ♂ f. *typica*.
- a¹. Upper side with irregular white sagittate markings on fore wing, but without blue, violet or green distal border on hind wing.
- b. Fifth white sagittate marking on fore wing above indistinct; exp. al. 49–52 mm. Male mark on hind wing prominent ♂ f. *stictica*.
- b¹. Five white sagittate markings on fore wing larger and well-defined. Exp. al. 58–60 mm. Male mark on hind wing less prominent ♂ f. *indistincta*.
- a². Upper side with blue, violet or green distal border on hind wing.
- b. Fore wing without white band; hind wing distal band green ♂ f. *cordelia*.
- b¹. Fore wing white banded.
- c. Hind wing distal band greenish blue ♂ f. *lavernalis*.
- c¹. Hind wing distal band violet-blue ♂ f. *ilka*.
- b². Fore wing without white band; hind wing distal band violet-blue ♂ f. *limbata*.

The female forms may be separated thus :—

- a. Upper side without noticeable violet suffusion.
- b. White sagittate bands prominent ♀ f. *typica*.
- b¹. White sagittate bands obsolescent, especially in hind wing ♀ f. *indras*.
- a¹. Upper side with noticeable violet suffusion, especially on distal area of hind wing.
- b. Black sagittate markings on hind wing above well-developed; one present below first median nervule ♀ f. *cordelia*.
- b¹. Black sagittate markings obsolescent towards inner margin; none present below first median nervule ♀ f. *ilka*.

- g*¹. Male without trace of postcellular spots in fore wing. Female with more conspicuous whitish spots beyond cell in fore wing.
- h*. Dark submarginal band on fore wing of male beneath continuous with median band of hind wing. Whitish spots on fore wing of female above very long.
- i*. Under surface olivaceous. Female above dominantly greenish-olive 205. *parta*.
- i*¹. Under surface darker. Female above with noticeable purplish sheen 206. *krannon*.
- h*¹. Dark submarginal line of spots on fore wing of male beneath continuous with submarginal line of spots of hind wing. Whitish spots beyond cell of fore wing in female above normal 207. *apicalis*.
- f*¹. Fore wing beneath without white apical spot 208. *kanda*.
- e*¹. Male with distinct white spots in fore wing beyond cell. Upper side glossed with dark purple. Female above and below with well-developed white post-median band across both wings, on the hind wing above glossed with purple 209. *tinna*.
- d*¹. Fore wings noticeably falcate; general colouring above and below marbled green (under side lighter). Female with confluent postcellular white spots; male without 210. *anosia*.
- c*¹. Male with hind wing bordered by broad milky-blue terminal band.
- d*. Marginal border of hind wing in male violet. Female with white macular band obsolete 211. *euphemius*.*
- d*¹. Marginal border of hind wing in male blue. Female like that of *bipunctata* 212. *zichri*.*

* I have not seen these two species.

- a*¹. Upper and under side with red spots.
b. Palpi and fore legs whitish-buff.
c. Female with two large red spots before the apex on hind wing above.
*d*¹. White spots of the fore wing well-marked in both sexes. 213. *whiteheadi*.
*d*¹. White spots of the fore wing diminished, submedian patch beneath obsolescent 214. *adeonides*.
*c*¹. Female without red spots before the apex on hind wing above 215. *adeona*.
*b*¹. Palpi and fore legs red.
c. Male without white spots on fore wing 216. *djata*.
*c*¹. Male with white spots on fore wing; female with broad white macular band across both wings 217. *montana*.

Subgenus DOPHLA, Moore.

- a*. Upper side crossed by continuous macular band, yellow on dark fuscous in males, white on violet-tinged grey in female 218. *bellata*.
*a*¹. Upper side dull olive-brown without light median band. A red spot noticeable in cell. 219. *mahonia*.
*a*². Upper side dull olive-brown, crossed by an incomplete line of small yellow spots which are usually edged with blackish 220. *dunya*.

Subgenus ADOLIAS, Boisd.

- a*. Palpi fulvous.
b. Male black above with light iridescent blue marginal band, very broad on hind wing; colouring beneath orange fulvous. Female above brown, spotted with yellow; beneath greenish 221. *dirtea*.
*b*¹. Under side both sexes yellow and brown. Upper side both sexes brown spotted with yellow; female largely spotted with white 222. *canescens*.
*a*¹. Palpi dull brown, in the female with longitudinal grey stripe. Male black above with iridescent blue marginal border. Female above blackish, spotted with light blue-green 223. *sandakanus*.

Genus 54. DICHORRAGIA, Butl.

Ground-colour above olive-blue-green, spotted with black and blue, beneath blackish striated with white in the apical half of fore wing and on the hind margin of hind wing 224. *derdas*.

Genus 55. APATURA, Fab.

Males velvety brown-black above; females ochreous-brown; a submarginal row of small black spots, those near apex of fore wing touched with white. Exp. al. 46-51 mm. 225. *borneana*.

Genus 56. EULACEURA, Butl.

Males velvety black-brown above, relieved by narrow white median band from third median nervule in fore wing to inner margin and across hind wing. Female dull grey-brown above, irregularly washed with white and dark spotted in distal half. Under side pearly white 226. *osteria*.

Genus 57. HERONA, Westw.

Ground-colour above grey-brown; postdiscal region of hind wing spotted with white; in fore wing a large yellowish spot below second median nervule in addition to a few postdiscal white spots 227. *schænbergi*.

Genus 58. EURIPUS, Westw.

Male blackish-brown, streaked and spotted with white. Female uniform brown or violet-tinged, or mimicking *Euplœa lowi* 228. *borneensis*.*

* The male and different female forms of this species may be distinguished thus:—

- a. A submarginal row of double white streaks on both wings above.
- b. Apex of fore wing not striped with blue ♂ f. *typica*.
- b¹. Apex of fore wing striped with blue ♀ f. *biseriata* Fruhst.
- a¹. No submarginal row of double white streaks.
- b. Mimic of *Euplœa lowi*.
- c. Ground-colour brown ♀ f. *loweimima* Fruhst.
- c¹. Ground-colour blue ♀ f. *euplœina* Fruhst.
- b¹. Not a mimic of *Euplœa lowi*.
- c. Upper surface uniform brown ♀ f. *uniformis* Fruhst.
- c¹. Upper surface steel-blue, apex of fore wing whitish violet ♀ f. *crastiana* Fruhst.
- c². Hind wing with blackish-blue basal stripes, distal area light brown ♀ f. *strigata* Fruhst.

Genus 59. PROTHOE, Hübn.

- a.* Colouring above creamy-yellow, heavily margined with fuscous. A subapical row of four yellowish spots on fore wing above, which are sometimes partially fused 229. *calydonia.*
- a*¹. Colouring above dark blue; fore wing crossed by lighter blue oblique median band; three white spots at apex 230. *angelica.*

Genus 60. CHARAXES, Ochs.

- a.* Colouring above orange, without white band or spots.
- b.* Hind margin of fore wing above narrowly bordered with fuscous brown.
- c.* A submarginal row of small black spots on hind wing above 231. *distanti.*
- c*¹. A submarginal row of larger black spots on hind wing above, the two apical spots large and confluent 232. *infernus.*
- b*¹. Hind margin of fore wing very broadly bordered with black-brown, especially over apical region 233. *repetitus.*
- a*¹. Colouring above relieved by white band or chain of white or yellow spots.
- b.* Broad white band across fore wing above, reaching costa in female, but beyond cell only in male 234. *borneensis.*
- b*¹. Double band of elongated white lunules across distal half of fore wing above 235. *everetti.*
- b*². A narrow yellow macular band across both wings above on blackish ground-colour 236. *echo.*

Genus 61. EULEPIS, Moore.

- a.* Ground-colour of upper side pale yellow.
- b.* Under side fore wing with four prominent black discal spots. Fore wing above: inner margin entirely yellow 237. *concha.*
- b*¹. Under side fore wing not spotted with black. Fore wing above: inner margin fuscous at anal angle and slightly at base.
- c.* Inner margin of hind wing below broadly white, very slightly tinged with brown 238. *jalysus.*

- c*¹. Inner margin of hind wing below broadly chocolate-brown.
d. Basal region of both wings above dark fuscous 239. *uræus*.
*d*¹. Basal region of both wings above greyish, darker on costa of fore wing.
e. Pale median band of ground-colour on hind wing beneath broad (13 mm. on costa) 240. *heracles*.
*e*¹. Pale median band of ground-colour on hind wing beneath narrow (7 mm. on costa) 241. *ganymedes*.
*a*¹. Ground-colour of upper side white, tinged with blue and very broadly margined with fuscous black 242. *malayicus*.